The Goulstonian Lectures:

OBSERVATIONS ON THE PATHOLOGY OF THE KIDNEYS.

Delivered before the Royal College of Physicians of London

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(*From the Laboratory of the Brown Institution.*)

LECTURE I.[1]

Delivered on March 15th, 1898.

MR. PRESIDENT AND FELLOWS,—In bringing before you the following observations on the pathology of the kidney I shall necessarily only touch the fringe of a large subject. The pathology of the kidney may be considered to include the study of at least three more or less separate classes of phenomena: (1) the mode of production of renal diseases; (2) the changes produced in the kidney by renal diseases; and (3) the remote effects produced on other organs or tissues by diseases of the kidney. I propose to deal mainly with the last of these questions and to a certain but very limited extent with the second, but not at all with the first, important as it is.

Diseases of the kidney may affect the general economy in one or more of the following ways: (1) the excretory activity of the kidney may be affected so that, on the one hand, the composition of the urine is more or less altered, and, on the other hand, the blood and tissues may possibly become contaminated with excessive quantities of substances normally excreted; (2) the production of dropsy; (3) the production of cardio-vascular changes; (4) diseases of the kidney are associated with profound changes in the nutrition and in the general metabolic processes of the body; and (5) the tendency to so-called secondary inflammations.

I propose to consider in these lectures a series of observations, experimental and clinical, dealing mainly with the questions associated with the excretory activity of the kidney (Section I.) and the influence of this organ on metabolism (Section IV.); a few observations dealing with Section III. will be detailed, but I have no observations to describe to you on either the causation of renal dropsy or with reference to the diminished resistance to microbic invasion that is so frequently seen in certain varieties of kidney disease.

As an introduction to the pathological side of the question it will be necessary to consider in some detail the physiology of the kidney.

THE PHYSIOLOGY OF THE KIDNEY.

The modern physiologist discusses the physiology of glands under the headings of external and internal secretions and according to this view the kidney would be placed in the former series, although some years ago Brown-Séquard hazarded the view that this gland also possessed an internal secretion. The kidney, however, is peculiar amongst glands, not only owing to the peculiarity of the arrangement of the circulation in it, but also owing to the extreme vascularity of the organ, so that quite apart from its functions as a gland the kidney has afforded a means of investigating various problems connected with the circulation and more especially with the vaso-motor mechanism. I think the very intimate relationship of the kidney to the vaso-motor mechanism is a factor that is sometimes overlooked by the more mechanical school of pathologists.

The physiological considerations that are of more immediate interest from a pathological point of view may be classified somewhat as follows: (1) circulation in the kidney; (2) the excretory activity of the kidney; (3) the synthetic activity of the kidney; and (4) the metabolic activity of the kidney.

I. Circulation in the kidney.—The circulation of the blood, as is well known, is carried on by the blood-pressure, but in different organs it is actually effected by very different means. In the case of the kidney there is what may be called a high-pressure circulation; the difference of pressure between the blood in the renal artery and that in the renal vein is brought about by the pressure in the artery being very high. This is due, in the first place, to the immense number of small arteries in the kidney, and, secondly, to the very abundant innervation that these receive from the vaso-constrictor nerve fibres. In the case of the liver there is a low-pressure circulation, the difference of pressure being effected, not by a high pressure in the portal vein, but by the blood being more or less sucked out of the organ by the low negative pressure in the right auricle and vena cava. In the lungs, where the vaso-motor supply is also comparatively slight, the circulation is very largely effected passively by the movements of respiration varying not only the amounts of air in the lungs but also the amounts of blood. Finally, in the spleen there is yet another means of effecting the desired object, as here the intermittent contractions and expansions of the organ must exercise a very powerful influence on the circulation through this organ. To return to the kidney, the blood-vessels are very abundantly supplied with vaso-constrictor nerves and these, like the vaso-constrictors distributed to other organs, are derived mainly from the dorsal region of the spinal cord. Vaso-constrictor fibres destined for all such vessels as are supplied by them leave the cord throughout the dorsal region and most abundantly through the lower half of the dorsal series of nerves. There are a few vaso-constrictor fibres derived from the upper dorsal region from the first to the fourth dorsal, and it is only when the sixth and eighth dorsal nerves are reached that the outflow of these vaso-constrictor fibres is at all abundant. The upper three lumbar nerves also contain such fibres distributed to the kidney amongst other organs.

All the above remarks apply to the dog, where there are twenty dorso-lumbar nerves, of which thirteen are usually reckoned as dorsal and seven as lumbar. It is remarkable that the kidney receives its vaso-constrictor fibres from such a very extended series of nerve roots extending as it does from the sixth dorsal above to the third lumbar below and there is no break in the series. Other parts of the body may receive their nerves from a fairly long series but not so long as that supplying the kidney; thus the fore limb is supplied from the third dorsal to the tenth dorsal and the hind limb from the tenth dorsal to the third lumbar. The kidney, however, is a "long" organ from a morphological point of view and this may account for the fact that it receives these vaso-constrictor fibres from some eleven spinal segments in the dog. The kidney not only receives its vaso-constrictor nerves from such an extended series, but each individual nerve root produces very marked effects on the renal circulation. It is not possible to diminish the volume of a limb (by excitation of the vaso-constrictor nerve supplying its blood-vessels) to anything like the same extent that the volume of the kidney can be diminished; doubtless this is in part due to the greater vascularity of the kidney, but it is also due to the very abundant nerve supply distributed to the renal vessels. The vaso-constrictor fibres pass down from the vaso-motor centre, probably in the lateral columns of the spinal cord, and it is of some interest that hemisection of the spinal cord above the level at which the renal nerves come off has no effect on the volume of the kidney. A number of experiments were made on the effect of hemisection of the cord at the level of the fifth dorsal, inasmuch as there is no appreciable outflow of renal vaso-constrictors until the sixth dorsal root is reached. Hemisection of the cord at this level fails to cause any dilatation of the renal vessels, but it also does not materially interfere with the conduction of impulses downwards from the vaso-motor centre to the kidney. Excitation of the vaso-motor centre causes, of course, constriction of the renal vessels, but if a hemisection be made at the level of the fifth dorsal the kidney on that side contracts on excitation of the vaso-motor centre, as far as my observations go, just as well as it did previously to the hemisection. Hemisection of the cord, however, causes dilatation of the limb-vessels although it fails to cause dilatation of the kidney of the same side. One half of the spinal cord, therefore, can maintain the tone of the vessels of both kidneys and can

[1] Lecture II. was delivered on March 17th and Lecture III. will be delivered on March 22nd.

convey impulses freely from the vaso-motor centre. The fact that there is what may be called unilaterality with reference to the spinal vaso-constrictor supply for the limbs—and there is no such differentiation in the case of the fibres distributed to such a symmetrical organ as the kidney—is a point of some interest from an evolutionary standpoint.

Vaso-dilator fibres.—Although the vaso-constrictor fibres spring from such an extended area of the cord the great bulk of these fibres is found in the lower dorsal and upper lumbar roots and here also by appropriate methods of excitation renal vaso-dilators can be demonstrated. Their action, however, is very slight when compared to that of the constrictors.

Reflex effects.—It is well known that the excitation of the central end of an afferent nerve causes reflexly constriction of the arteries of the body and especially of the blood-vessels of the abdominal viscera such as those of the intestines, spleen, and kidneys. This constriction does not normally cause any long-continued rise of blood-pressure owing to the fact that coincidently with it the heart is inhibited, partly directly by the action of the afferent stimulus on the vagus centre, partly indirectly by the heightened blood-pressure stimulating the ends of the vagi distributed to the endocardium. That, after all, is the great function of the vagus and as long as this mechanism is intact it is practically impossible to materially raise the general blood-pressure for any length of time. This is a factor probably of some importance in regard to the production of high tension in disease, as from a physiological point of view one would be inclined to say that no mechanical means could produce high tension as long as the nervous mechanism of inhibition and the relation between the vaso-motor system and the cardio-inhibitory mechanism were intact. The excitation of the central end of a posterior root causes (provided the vagi are cut) a rise of blood-pressure just as the excitation of any ordinary nerve does, but there are two differences of considerable interest. If a posterior root below the third lumbar nerve be excited the rise of blood-pressure is similar to that seen on excitation of the great sciatic; if, however, the central end of one of the upper lumbar or lower dorsal posterior roots be excited the rise of blood-pressure is far greater in amount and more sudden in its onset; in fact, the effect is quite different to that seen with the lower roots. The anterior roots of these nerves contain, as we have seen, the vaso-constrictor fibres distributed to the vessels of the viscera and these observations tend to show that these posterior roots also contain special afferent fibres capable of affecting the vaso-motor system to a far greater extent than the ordinary afferent fibres seen in sensory nerves. In other words, this great and sudden effect on the blood-pressure would tend to show that some posterior roots contain afferent fibres derived probably from the viscera and from the kidney amongst other viscera. The fact that there are such nerves distributed to the kidney and that the excitation of their central ends is capable of causing a very great effect on the vessels of the body generally is also a fact that may have some bearing on the production of high tension in certain renal diseases. The other point of interest about these afferent visceral fibres is that although their excitation causes a rise of blood-pressure with general constriction there is local dilatation of the kidney—in fact, this is the only method by which experimentally any very considerable dilatation of the renal blood-vessels can be produced.

It is a common belief that there is some intimate relationship between the state of the kidney vessels and those of the skin. It is possible that such is the case, but numerous experiments directed to this end have failed to demonstrate any such relationship. I would sum up the relationship existing between the renal and the general circulation by saying that the kidney vessels take part in almost all effects produced by reflex excitation of the vaso-motor centre and that the general blood-pressure can be profoundly affected by reflex stimuli reaching the central nervous system through the renal nerves, but that alterations in the calibre of the kidney vessels only are not capable of causing anything like so profound an effect.

II. The excretory activity of the kidney.—The most obvious function of the kidney is, of course, the removal of various substances from the blood stream and as is well known in performing this the kidney manifests marvellous selective affinity as shown by the fact, amongst others, that although there is some five times as much sugar in the blood as there is urea, yet the urine contains mere traces of the former and 2 per cent. of the latter. The elimination of water by the kidney is usually held to be determined ultimately by the rate of blood-flow through the organ and most diuretic substances causing an increased excretion of urinary water bring this result about by causing an increased rate of blood flow through the kidney. This is sometimes effected by dilating the renal vessels, the general blood-pressure remaining unaffected; at other times the same result is brought about by constricting the renal vessels and at the same time raising the blood-pressure. It is not essential for the action of a diuretic that the diuretic substance should cause dilatation of the renal vessels although the most potent and useful diuretics do this. Observations published by me in the Proceedings of the Royal Society, 1892, showed that the quantity of water excreted by the kidneys could be affected by excising portions of the kidneys. These results may be shortly summarised as follows. Excision of a portion of one kidney is followed by a slight increase in the amount of urinary water sometimes transient, in others more permanent in its duration, but unaccompanied by any permanent increased excretion of urea or by any deterioration in general health. The excision of portions of both kidneys is followed by a very great increase in the amount of urinary water; thus it may be trebled or even quadrupled in amount, and this increase is permanent and in some of my experiments has been observed as long as eighteen months after the operation. This hydruria is not accompanied by any other ill effects, the animal remains in good health and does not excrete any increased quantity of urea. Simple incision of the kidney with subsequent suture of the damaged organ or division of the renal plexus is not followed by any of these effects. The excision of a portion of one kidney and the subsequent removal of the whole of the other also causes this extreme hydruria and provided that at least one-third of the original total kidney weight is left such an animal will remain in good health for prolonged periods—e.g., eighteen months. There is no marked wasting and no increased excretion of urea takes place. Such an animal, however, is unable to excrete a concentrated urine and if very large amounts of nitrogenous foods are given the urea formed is readily excreted, but only thanks to a still further increase in the amount of urine. Such an animal resembles a case of diabetes insipidus or of contracted kidney, but the urine is not albuminous. The cause of the increased excretion of urinary water when the amount of available kidney is thus reduced is by no means clear; it is, however, not associated as far as my observations have gone with any very great increase of the general blood-pressure. It is similar to the increase seen in many renal diseases where the quantity of kidney substance is often greatly diminished in amount. Some physiologists have urged that the kidney not only excretes water, but also that it re-absorbs water, and it may be that if the quantity of kidney tissue is diminished the excretion may continue and the re-absorption fail; but, as said above, I am not prepared to explain the fact that when the kidney is thus reduced in amount by the experimental procedures mentioned above the urine passed is a copious dilute one. Normally an animal such as a dog, if it requires to excrete a large amount of urea, can do so in two ways, either increasing the percentage of urea or by increasing the amount of urine. In my experience the former is the more common, but these animals after the above partial nephrectomies are only able to effect the latter. There is a slight increase in the percentage of urea in the blood after this operation and it is possible that this may be the cause of the hydruria and, if so, there is still greater resemblance between this experimental hydruria and that seen in renal cirrhosis, since, as will be seen later, the blood in this malady may contain a notable excess of urea. This hydruria is also seen when the amount of kidney left is very small. Thus in one case approximately one-tenth of the original kidney weight was all the available kidney tissue left after the removal of a large amount of one kidney and the ligature of the opposite ureter, yet this animal excreted three times as much urinary water with one-tenth of the original kidney weight than it did with intact kidneys. This experiment shows well the extreme facility with which small fragments of healthy kidney will excrete the urinary water.

The excretion of urea.—The excretion of urea, like the excretion of water, is readily effected by these small fragments of kidney, but there is this difference that whereas all partial nephrectomies, single or double, slight or extensive, increase the amount of urinary water, to different degrees,

it is true, the amount of urea is not increased by either single partial nephrectomy, or by double partial nephrectomy, or yet by the removal of one kidney and a portion of the other, provided always that at least one-third of the original total kidney weight is left to the animal. If, however, this limit be exceeded and only one-quarter of the original total of the kidney weight be left then the quantity of urea excreted is increased. This increase in the urea excretion is not so great as the increase in the urinary water, but it is considerable. Thus the amount of urea excreted may increase by half of its previous amount without any increase in diet, and more commonly, notwithstanding a diminution in the amount of food, owing to failure of appetite. The increased excretion of urea sets in from one to three days later than the increased excretion of water, so that the animals in which three-quarters of the total kidney weight has been removed present for the period of one or two days a condition of simple hydruria before the polyuria sets in. This polyuria is persistent and accompanied as it necessarily is with great emaciation it leads to death in periods varying from one to six weeks. These small fragments of kidney excrete urea abundantly and even as when in the case quoted above the amount of kidney is reduced to so small an amount as one-tenth of the original weight there is no evidence that the fragment is unable to excrete urea. In the cases where three-fourths or more of the total kidney weight had been removed the polyuria was marked and persistent and invariably led to death; where, however, two-thirds of the total kidney weight had been removed there was quite exceptionally a slight increase in the urea excretion accompanied by slight wasting, but this was never marked in amount or fatal in its course. This fact shows, however, that there is not an absolute line to be drawn between the two-third and the three-quarter cases and the main point of interest is that a very small difference in the amount of kidney substance will turn the scale from the condition of simple hydruria which is compatible with good health for prolonged periods to a condition of polyuria accompanied by great wasting and leading rapidly to death. In these fatal cases the body temperature falls, but there are no other signs of uræmia; vomiting, coma, convulsions, and dyspnœa are conspicuous by their absence, the only marked symptoms being progressive weakness, emaciation, and subnormal temperature.

Amongst the salts excreted in the urine the aromatic sulphates are of interest as showing that substances elaborated in the alimentary canal may be absorbed and excreted by the urine instead of being voided by the rectum and thus it is possible that when the excretory functions of the kidneys are impaired auto-infection from the alimentary canal may ensue.

III. Synthetic activity of the kidney.—The kidney is known to effect at least one synthesis—namely, the formation of hippuric acid from benzoic, and the view has been advanced that this organ also makes uric acid possibly from urea; that, however, is a question that from the physiological standpoint requires a great deal more investigation before it can be definitely accepted.

IV. Metabolic activity of the kidneys.—I have advanced the view that in addition to the well-known functions of the kidney enumerated above this organ has a further function of in some way influencing the metabolism of the tissues so that when the quantity of kidney substance present is greatly reduced the proteid tissues, and more especially the muscles, break down and liberate urea. This view is based on the following experimental facts: (1) when the quantity of kidney is reduced to one quarter of the original total kidney weight the quantity of urea excreted in the urine is increased; (2) the amount of urea in the blood is greatly increased at a time when this increased excretion of urea is going on; (3) there is great emaciation even if the appetite is maintained and the emaciation cannot be arrested by the most abundant diet; and (4) if the appetite be completely lost and no food be taken the amount of urea in the urine may remain at a level as high as that at which it stood when the normal animal was eating freely and maintaining its body weight.

I think it is clear from a consideration of these facts that after such operations the production of urea is increased, and in the light of the great emaciation and the muscular weakness that ensues it is at any rate probable that the urea is derived from the muscles. The increased production of urea is determined by the quantity of kidney removed, or, to be more accurate, by the quantity of kidney remaining. It is not brought about by any reflex effect produced on the nervous system by the operation. This is seen to be the case from the consideration of two facts: first, the removal of portions of both kidneys does not lead to this increased production, although under these circumstances the maximum mutilation is inflicted, and therefore if it were a reflex effect or indeed if it were due to any disturbance of the nervous system the increased production of urea ought to occur in these favourable conditions; and, secondly, the occurrence or not of polyuria depends entirely on the size of the fragment of kidney found post mortem and very often a greater mutilation and a more severe operation may result in the removal of quite a small wedge, whereas in another case a large wedge may be readily and easily removed. There is, however, no exception to the statement that whatever the mutilation or severity of the operation the question of the occurrence of the polyuria is entirely a question of the weight of kidney substance found post mortem. In this respect these kidney experiments present a remarkable resemblance to the experiments on the pancreas with reference to diabetes and to those on the thyroid with reference to myxœdema. In all these cases the results are entirely dependent upon the quantity of gland left. In the case of the thyroid there is definite evidence that the phenomena following its removal are at any rate largely due to the cessation of the action of an internal secretion; in the case of the pancreas this is also probable. Although it is quite possible that this is so with the kidney also there is no conclusive evidence to this effect, since for this to be the case it would be necessary to show that the ill effects seen after removal of the larger amounts of kidney can be arrested or at any rate benefited by the injection of the kidney extract, but such experiments have not as yet been carried out. Brown-Séquard considered that the so-called uræmia produced by the experimental removal of the kidneys could be benefited by the administration of kidney extract, but beyond this fact there is not, I believe, any clear evidence in favour of the view of the existence of an internal renal secretion, probable as such an hypothesis is for some reasons.

If the views advanced above are correct, that the kidney controls in some way the metabolism of the proteid tissues of the body, it is difficult to see how this can be effected except by the agency of an internal secretion, since the effect is not one produced through the nervous system, as division of the renal plexus not only does not produce any analogous effect but division of the renal plexus in no way modifies the effects of partial nephrectomy.

Another point of interest in the physiology of the kidney as bearing on the pathology is the amount of kidney substance necessary in order for life to be maintained. This can be deduced from a comparison of the two series of experiments—the fatal one where three-quarters of the total kidney weight had been removed and the other the non-fatal series where but two-thirds had been excised and where life was maintained for an indefinite period in good health. The comparison of these two series shows that when the animal possesses some 2 grammes or more of kidney per kilo of body weight life can be maintained in good health but when the amount of kidney substance is less than 2 grammes per kilo the typical disturbance of nutrition described above sets in and the animal dies. The normal amount of kidney in dogs such as those used in the above experiments is approximately some 6·7 grammes per kilo. The comparison of the kidney weight with the body weight gives practically the same result as the direct estimation of the kidney weight, that is to say that as soon as there is less than one-third of the original quantity of kidney the danger limit is reached and a very small amount of renal tissue will turn the scale. Prolonged life with much less than 2 grammes of kidney per kilo is impossible, but some experiments suggest that the duration of life even in the fatal series is influenced by the amount of kidney—thus the longest duration of life was fifty days and the amount of kidney was 2·1 grammes per kilo. In another case the duration of life was six days and the amount of kidney was 0·9 gramme per kilo.

Although the effects on metabolism are so marked when three-quarters of the total kidney weight have been removed and are so slight when two-thirds have been removed, yet the transition from the fatal to the non-fatal series is probably a gradual one. A careful analysis of the non-fatal series with the larger amount of kidney left shows that th s

series contains some animals where there was slight emaciation and some increase in the urea excretion, so that it is quite possible that these animals if they had been kept for a more prolonged period might have succumbed to a more chronic form of the disorder. When the quantities of kidney substance removed are still greater than three quarters of the total kidney weight—e.g., four-sixths, five-sixths, or even nine-tenths, the small fragments left excrete urea freely and I have quite failed by partial nephrectomy in producing a kidney fragment that was unable to excrete urea freely. For this reason, in addition to those mentioned above, I think it is evident that the disordered metabolism induced by the operation can in no way be related to any impediment in the excretion of urea, but that it must be dependent upon a disordered production, as mentioned above.

These operations, even when fatal, have not caused the development of any typical uræmic symptoms except a fall in body temperature; coma, convulsions, dyspnœa, and vomiting have been absent; diarrhœa has sometimes been present and in a few cases where the marasmus was of rapid development considerable quantities of indican have been found in the urine. Indicanuria is a phenomenon frequently associated with the breaking down of proteid material in the body either in the tissues or in the alimentary canal. In some observations it was present where no food was eaten and was thus similar to the increased excretion of indican seen in starvation.

The blood in the fatal series contains a great excess of nitrogenous extractives and more especially urea; the increase of urea in the blood in the fatal series may amount to as much as twenty times the normal. This increase in the blood is present at a time when the increased excretion in the urine is in full swing. The increase in nitrogenous extractives, however, is not confined to the blood, but it is also seen in the tissues such as the muscles, the liver, and the brain, and it is more especially marked in the muscles. The percentage amount of nitrogenous extractives is much higher in the muscles than in the liver and approximates to that found in the blood. Although in the case of blood the increase in the extractive matters is practically confined to an increase in the amount of urea this is not so in the muscles; here there is not only a great increase in the amount of urea—i.e., nitrogenous extractive soluble in absolute alcohol—but there is also a great increase in the nitrogenous extractives insoluble in absolute alcohol but soluble in rectified alcohol. Hence the increase in the total amount of nitrogenous extractive matter in the muscles is still greater than it appears at first sight when compared to those present in the blood. It is a little remarkable that the increase in the liver should be less than in the muscles, but this was always observed. Great as the increase in the blood is, yet owing to the fact that the muscles form the bulk of the body the great bulk of the increase in these nitrogenous extractives is in the muscles and not in the blood. As the increase in these nitrogenous extractives was so marked in the muscles, this suggested that these bodies were formed there directly from the muscle proteids as a result of the deficient amount of kidney. In order to check this observations were made on the distribution of nitrogenous extractives and of urea after (1) double nephrectomy and (2) injection of urea into the circulation after preliminary ligature of the ureters.

1. *Double nephrectomy.*—After complete double nephrectomy the distribution of the nitrogenous extractives in the body is very similar to that seen after partial nephrectomies described above. There is a great increase in the blood, a great increase in the muscles, and a smaller increase in the liver. The percentage increase in the muscles may equal that found in the blood as regards the amount of nitrogenous extractive matter soluble in absolute alcohol, but the increase in those insoluble in absolute but soluble in rectified alcohol is very great in the muscles and small or absent in the blood. Speaking broadly, in the blood the great increase is confined to bodies of the urea type, whereas in the muscles there is not only a great increase in this but also in bodies of the creatin class.

2. *The injection of urea.*—After the injection of urea the greatest increase is found in the blood, the next greatest in the muscles, and the least in the liver, so that here again there is a similarity of distribution, but there are at least two striking differences. In the first place the increase in the blood, muscles, &c., is confined to material soluble in absolute alcohol, and there is therefore no marked increase in the nitrogenous extractives soluble in rectified alcohol. In the second place, and of much more importance, is the fact that although the percentage in the muscles is greater than that in the liver it does not approximately equal that in the blood as is so frequently the case after double and after partial nephrectomy—in other words, after complete double or after partial nephrectomy there is a more uniform distribution of the increase of these extractives in the blood and muscles, but after the intravenous injection of urea the only great increase is in the blood. This, however, is not the case if the animal is allowed to survive the injection for some hours—then there is a more uniform distribution of the injected urea in the blood and muscles.

These facts are of considerable importance in estimating the significance of the increased amount of nitrogenous extractives found in the blood and tissues after double and after partial nephrectomy. The injection of 20 grammes of urea may cause a percentage increase in the blood equal to that seen perhaps in a case of double nephrectomy, so that it might be supposed that but 20 grammes of urea were retained in the latter case, whereas a comparison of the muscle extractives in the two cases shows that in the partial nephrectomy case the actual amount of urea in the body must be far and away greater than in the case of the injection of urea, although perhaps the percentage amounts in the blood of the two cases may be fairly equal. I insist on this great increase in the nitrogenous extractives in the muscles after partial nephrectomy, and at a time when the urea excretion is increased, as I think it is a fundamental point in estimating the significance of these experiments. It is only in the cases where three-quarters of the total kidney weight have been removed that this greatly increased amount of nitrogenous extractives is present in the blood and tissues. In the cases where two-thirds of the kidney weight have been removed and where life has been maintained and hydruria only produced a slight increase in the urea excretion was sometimes seen, and in these cases there was a slight increase in the amount of urea in the blood, nothing, however, comparable to that seen in the fatal series, but still an increase. Normally, in the dog 0·015 to 0·02 would be a fair average for the amount of urea per cent. in the blood. In the fatal series this may rise to 0·3 per cent., but the highest percentage seen in the non-fatal series was 0·06 per cent. This is another fact showing that no hard-and-fast line can be drawn between the non-fatal and the fatal cases and is, I think, further evidence that the kidney in some way controls the production of urea as well as its excretion. Inasmuch as in the three-quarter cases it is quite impossible to hold the view that the kidney fragment is unable to excrete urea and that the increased amounts in the tissues are due simply to retention, in the two-third non-fatal cases this view becomes still more untenable.

The general blood-pressure remains high both in the cases where two-thirds and where three-fourths of the total kidney weight have been removed, notwithstanding the marasmus and the cachectic condition of the animals in the latter series. In this respect the blood-pressure in these cases is in striking contrast to the general blood-pressure seen after double nephrectomy, as here it falls rapidly and greatly. The blood-pressure in the carotid after removal of three-quarters of the total kidney weight varied from 94 to 100 mm. of mercury. This height of blood-pressure is fairly comparable to that seen in the normal dog and it cannot be said to be increased absolutely, but seeing the wasted and feeble condition of the animal it has certainly increased relatively. I have, however, failed to produce experimentally by this operation any permanent increase in the blood-pressure at all comparable to the well-known increase seen in many renal diseases, and even in cases that survived and are still surviving the operation of removal of some two-thirds of the total kidney weight performed some eighteen months ago the highest blood-pressure observed in the femoral artery, as estimated by Mr. Leonard Hill's instrument, was but 130 mm. I have also been unable to satisfy myself that any cardiac hypertrophy was present after these operations; but that is a very difficult matter to settle in dogs owing to the great variations in the size of the heart normally, and hence the height of the blood pressure is really a better measure of the absence of greatly increased arterial tension than observations on the size and weight of the heart. These observations would tend to confirm the view that although heightened arterial tension is a familiar phenomenon in certain renal diseases and although often associated with renal disease in which there is a great diminution in the amount of kidney substance, yet it is not entirely dependent upon that diminution.

A Valedictory Lecture
ON
THE PROGRESS OF OBSTETRICS AND GYNÆCOLOGY.

Delivered at King's College Hospital,

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EMERITUS PROFESSOR OF OBSTETRIC MEDICINE AT KING'S COLLEGE AND CONSULTING PHYSICIAN TO KING'S COLLEGE HOSPITAL.

GENTLEMEN,—I have been asked to devote this lecture—the last which I shall have the privilege of delivering at King's College—to a consideration of the advances which have been made in the subjects which I profess since I assumed this chair, now more than five-and-twenty years ago. I had hoped that the fact of this being my last lecture would have passed unnoticed, but since it is not so I feel that the subject proposed to me is an appropriate one, and the more so as my inaugural address was on the Progress of Obstetrics and Gynæcology. As time goes on it is well to take stock of our movement with it. But that I should undertake to give anything like a comprehensive account of our gains in obstetrics and gynæcology in less than an hour would be an absurd and useless endeavour. I shall not attempt so impossible a task, but shall content myself with a brief allusion to one or two matters which I hope may prove of interest to you.

It is certain that there is no department of medicine or surgery the progress of which in recent years can in the least compare with that of which we can boast. That is because our subject is to a great extent a new one. When I came to this hospital, now thirty-five years ago, gynæcology was practically in its infancy. If you look at any book on the diseases of women of those days—I think Churchill and West were those most used—you will be astonished to find that the subjects which now chiefly occupy the attention of gynæcologists were altogether unknown. There is in them practically no allusion to most of the work with which we are now chiefly occupied. Even such every-day matters as ovariotomy were only beginning to be considered and were damned with faint praise. Morbid states of the Fallopian tubes, such as salpingitis, pyosalpinx, and the like, now known to play so large a part in the causation of pelvic disease, were unknown and curative processes now employed every day were undreamt of.

It was in the year 1854 that I became the pupil of that wonderful man Sir James Simpson, to whose initiative we may fairly ascribe much of the progress made within the last half-century in the departments of medicine I have mentioned.

> "He was a man, take him for all in all,
> I shall not look upon his like again."

Many have depreciated his work, called him ill-balanced and impulsive, lacking in judgment, and unreliable; and in a certain sense all this was true. But his boundless and contagious enthusiasm, his commanding personality, that indefinite something about him which men call "genius," his sweet and lovable disposition which made him never see anything but good in others who would admit no good in him, combined to make of him a leader and a teacher such as I have never seen equalled in the past and never expect to see in the future. His enthusiastic study of all advances in his favourite pursuits and the energy and zeal with which he advocated new methods and treatments, many of which have passed into the limbo of things that are justly forgotten, founded a school of disciples who have since worked hard at subjects which before his time were almost completely neglected. I crave your pardon for this brief allusion to my honoured master, since I am talking of ancient history unknown to most of you.

It is to my mind no objection to a man's work that all of it will not bear the test of time and experience. If that were always essential who is there amongst us whose work would stand? Take, for example, Henry Bennett's book on "Inflammation of the Uterus," which attracted a great deal of attention in its day. If ever there was a book which was thoroughly unsound, the views in which were completely untenable and the practice based on them most pernicious, surely it is this. And yet who shall say that Henry Bennett's work did no good? It did at least this: it directed attention to diseases of the reproductive organs in women, it caused them to be recognised, studied, and diagnosed, and in due course of time its errors were realised and its mistakes avoided. And so it is with many things which for a time received undue attention, such as Grally Hewitt's extravagant views on uterine displacements, which yet had an element of good in them, and other examples which I might give, but which I had perhaps better not dilate on. The lesson from all this is one sadly needed but rarely acted on—that is, a little less dogmatism and a little more charitable consideration for views which do not commend themselves to us. I might fill up the whole of the time allotted to me—and it would not be unprofitably spent—if I were to address you solely on the confident, absolute, and unhesitating condemnations passed by men who have no practical knowledge at all on the matters they condemn on such mooted points in modern gynæcology as trachélorraphé, the use of electricity in gynæcology, laparotomy in pelvic inflammations, total extirpation and morcellement of the uterus, and many similar topics I could mention.

The well-known definition, "Orthodoxy is my doxy and heterodoxy is other people's doxy," surely applies with remarkable force to all matters gynæcological. What I have said reminds me forcibly—and the remembrance should teach us a valuable lesson—of the days not so long ago when the benches of the Medico-Chirurgical Society rang with excited cries of "Down with these belly-rippers!" when Spencer Wells had the temerity to bring before it a paper advocating the performance of ovariotomy. Even after I came to this hospital I well remember urging ovariotomy in the case of a near connexion of my own who had a perfectly simple ovarian tumour. She was taken to several of the most eminent surgeons of the day, all of whom discouraged it, one of them telling her husband that it was "mere butchery." If there is one lesson more than another I should like to leave behind me here it would be that of charitable consideration for the views of others and deferred judgment. If I were asked what is it more than anything else which has enabled obstetrics and gynæcology to take their present position of course I should unhesitatingly say the principles of antisepsis. In directing attention to the changes these have produced I am of course mentioning an obvious truism. In this hospital at least, which may make the proud boast of being, so far as London is concerned, the *fons et origo* of antisepticism, since Lister came to us from Scotland, no word need perhaps be said of it. You are so imbued with the knowledge of it that it is to you, I hope and believe, a second nature. To you the things I have seen before it became known would be absolutely incredible. If I were to tell you what I have seen from septic surgery in my early days in India, where I passed two or three years after I qualified—nay, even were I to tell of things I have seen within these very walls in the way of abdominal surgery:

> "I could a tale unfold whose lightest word
> Would freeze thy young blood,
> . . . . . .
> And make each particular hair stand upon end
> Like quills upon the fretful porcupine."

I am not going to occupy your time by repeating the twice-told tale of what antiseptics have done for obstetric practice. That the very hospitals and wards which were, when I came here, hotbeds of puerperal septic disease are at this moment the safest place in the world for women to be delivered in is a very fairy tale of medical science which will always be remembered in connexion with the time I am talking of.

It is worth while recalling in this connexion a curious experiment made here just after I came, when a lying-in ward was established in what is now the Pantia-Ralli. The mortality was so terrible that we had soon to close it, and the experiment of having a labour ward in a general hospital will, I hope, never be tried again; but such is the safety of antiseptic midwifery that if it were the result, I fully believe, would be very different. It is a matter of deep regret that the mortality of ordinary domiciliary practice has not lessened with that of lying-in hospitals. This was conclusively shown

only the other day in an interesting address by Dr. Cullingworth to the Obstetrical Society. It is certainly a preventable thing, and this should not be. But I am convinced that the blame does not rest with the medical profession. Those members of it who neglect antiseptics will certainly lessen day by day as younger men trained of late years get into practice. If ever some proper and effective control can be established over the midwives—or obstetric nurses, or whatever you choose to call them, who practice so largely among the poor—attending, it is startling to hear, more than half the confinements in the country—then, and only then, will the mortality of the domiciliary practice approximate to that vanished mortality of the lying-in hospitals.

But the gain from the use of antiseptics in midwifery is very far from being limited to natural labours. Several of the more serious conditions which were practically hopeless when I joined the hospital are now treated with success. The Cæsarean section was formerly considered an operation which was almost certainly fatal. Therefore it was never resorted to except under the direst necessity and under conditions which practically precluded the hope of recovery. Now, once more from the extension to it of the principles of antiseptics, as well as from our experience in abdominal surgery, this is no longer the dreaded thing it used to be, and it can be resorted to as an operation which affords a fair chance of recovery, the mortality in the hands of experienced operators being little more than that of some other operations constantly performed. There is another operative procedure which had practically fallen into disuse, that of symphysiotomy, which has again been brought into prominence, but more in other countries than in ours, which enables us sometimes to avoid the horrid alternative of destroying the living fœtus. This, again, is the direct result of the safety arising from antiseptics. One of the chief improvements in modern midwifery, however, is the enormous strides we have made in the treatment of that far from uncommon and dangerous condition, extra-uterine fœtation. Five-and-twenty years ago if an accoucheur was called in to a patient in early pregnancy who was collapsed and moribund he might and probably would have diagnosed the existence of a ruptured tubular fœtation with intra-peritoneal hæmorrhage, but he would have had to stand helplessly by and see his patient die. Now he would without hesitation operate with a fair chance of snatching his patient from the jaws of death and of adding one more to the many cases which have thus been successfully treated. Another not very dissimilar condition as to its effects, before practically hopeless—rupture of the uterus during labour—is now well within the hope of successful treatment. I have no intention of going over all that has been done within the last quarter of a century in midwifery. These are only some illustrations of our progress.

There is one subject, however, on which I feel called to say a few words and that is the modern practice in protracted labour from uterine inertia, and that because it has been strongly attacked by my friend Professor W. Japp Sinclair, of Manchester, in his recent address to the British Medical Association at Montreal. When I joined this hospital the old and I venture to think the bad practice was common of leaving women to linger on very many hours in powerless labour from an unfounded dread of the forceps. No doubt many of the more advanced practitioners were gradually shaking themselves free of it, but the textbooks all adhered to the old dicta. If you want to see what this practice led to I would ask you to read the account of the labour and consequent death of the Princess Charlotte of Wales which I have introduced into the more recent editions of my book on Midwifery. You will there see how that gifted Princess's life was sacrificed to thoroughly bad midwifery. Had it not been for this our present gracious Sovereign would in all human probability never have come to the throne. The extent to which the dread of instrumental interference was carried may be judged of from the fact that in the Rotunda Hospital at Dublin, between the years 1786 to 1793, the Master, Dr. Clark, used the forceps only fourteen times out of 10,387 deliveries, and during the Mastership of Dr. Labbatt (1815–1822) out of 21,867 births there is no record of the forceps having been used in a single instance. The first edition of my book on Midwifery was published in 1876 and I believe it to be the first systematic treatise in which the more rational and I think now generally adopted practice was openly advocated. This I did in fear and trembling and deemed it necessary to offer a sort of apology in the preface. Happily my fears in this respect were not justified, the views I enunciated were generally approved, and the practice I inculcated, with all proper reserve and safeguards I maintain, was generally adopted. It is very likely that the pendulum has swung too far in the opposite direction. Injudicious practitioners abound everywhere, but apparently far more abundantly in and about Manchester than in London, for certainly here I do not come across the enormous number of lesions which Professor Sinclair attributes to the use of the forceps, forgetful of the fact that the cervix used to tear and the perineum to lacerate long before the forceps were heard of. He forgets also, or at any rate minimises, the fact that in the good old times he so much laments lesions were abundant from *not* using the forceps which are hardly ever seen now, such as vesico-vaginal fistulæ. These are not made nowadays, because the forceps are more frequently used. So much is this the case that it is probable that most of the gentlemen I am addressing have never even seen the operation for their repair. Professor Sinclair, however, rather lets the cat out of the bag when he tells us that in the quarter of a century before the introduction of antiseptics, which is practically the quarter of a century before I assumed this chair, Dr. Matthews Duncan, whom he very properly takes as a type of the obstetricians of that time, and his contemporaries "were long busy in repairing the characteristic ancient injury of vesico-vaginal fistula, for they had the accumulated misery of a whole generation of women to cure and ameliorate." "The accumulated misery" of generation after generation of women living before Marion Sims's great discovery was left uncured and unameliorated.

Professor Sinclair does not mention one of the great glories of midwifery resulting from modern practice—that is, the practical abolition of the operation of craniotomy formerly so common. It would be a curious study to inquire what happened in the *tempora acta* in the hands of injudicious practitioners, who, I suppose, existed then as now. I have heard of one distinguished obstetrician at least, celebrated for his hostility to "progressive" practice, who when called in to a bad midwifery case exclaimed in emphatic Doric, "Man, what's the deeficulty? dang out the brains!" I wonder how many lacerated cervices or torn perinea should be taken as the fair equivalent of even one human life saved from the deadly perforator? Professor Sinclair sets himself to prove a most extraordinary thesis. Let me quote his own words: "A thesis which I shall endeavour to maintain to-day is that gynæcology has become so largely surgical as the direct result of surgical interference in midwifery practice. The accoucheurs are the providers of material for the gynæcologists." And again: "For the material of his ordinary daily labour the gynæcologist has to look to the accoucheur." Surely these extravagant statements cannot be seriously meant? I was under the impression that the surgical expansion of gynæcology was due to such operations as ovariotomy, the removal of diseased appendages, vaginal and abdominal hysterectomy, colpotomy, and the like, which the wildest imagination cannot say are the production of the accoucheurs.

If Professor Sinclair had been content to preach against injudicious excess in operative midwifery I should have heartily agreed with him and welcomed his address as sure to do good. But he does far more than this; he advocates in effect, if not in so many words, a return to the old bad times and disastrous practice against which, as one of the teachers and writers of textbooks he so much blames, I feel bound to raise my voice. I do not, however, intend this as an answer to his criticisms—that I have attempted more at length in the forthcoming edition of my book on Midwifery—but as a passing allusion to a topic of current interest.

That gynæcology is becoming, year by year, more and more surgical is a fact that cannot be denied. Indeed, nowadays a gynæcologist who cannot operate or handle a knife, or is not allowed to do so by the rules of his hospital, if such fossil institutions still exist, is very like a modern soldier prohibited from using gunpowder. If a gynæcologist must be either a surgeon or a physician then in future he must certainly elect to be a surgeon. But on this I should like to say a few words and to make them intelligible I must be a little retrospective. Many of our London hospitals are very ancient institutions and the more modern ones are modelled upon them. When they were founded midwifery was only practised by women and gynæcology did not exist, so that the staff was naturally formed by members of the old corporations of physicians and surgeons only. As time elapsed it became necessary to appoint obstetric

physicians, who came in as interlopers, who were "neither flesh, fowl, nor good red herring." As they taught midwifery only they generally belonged to the College of Physicians. The first Fellow of the College of Physicians who had the boldness to shake off the shackles of precedent was the late Dr. Tyler Smith, of St. Mary's Hospital, who performed ovariotomy and has left a lasting name for himself in connexion with the operation, since he introduced into this country the intra-peritoneal treatment of the pedicle. I believe, although it was before my time, that he gave great umbrage by doing so.

Everyone who has the honour to belong to the College of Physicians is proud of it and fond of it, but it is a very ancient institution, and like other ancient institutions it is not altogether free from traditions and prejudices that are not altogether wise. Moreover, it has a good many Fellows who are by nature fine old crusted Tories, whom everyone loves and respects, who would like to keep the College very much as it was in the time of Henry VIII. Possibly some of these may still object to obstetric physicians operating when they have an aptitude for doing so and have such work to do. But if such views are still held, as is not unnatural, they have never done any practical harm. Under the judicious guidance of its successive Presidents the College of Physicians has been as progressive as such an institution can be expected to be or, indeed, in my opinion, ought to be. From it, at least nowadays, no difficulties arise. Of the views on this subject of one of the wisest and most liberal-minded of its Presidents, the late Sir Andrew Clark, there can be no doubt, for I have often heard him say that a man should do exactly what he thought himself most capable of doing and I have had practical proof of it by having on several occasions operated on gynæcological cases he sent to me for the purpose. But I am told, for I have not myself seen it, that there is a cloud, at present no bigger than a man's hand, rising in another quarter. I am given to understand that our friends the hospital surgeons, or some of them, dismayed, let us hope, by the operative successes of their obstetrical colleagues, are beginning to clamour for protection and are agitating for the enactment of a rule that no obstetrician is to operate unless he is a Fellow of the Royal College of Surgeons.

Now see for a moment what a grievance this would be. Take the case of a comparatively young obstetrician who has qualified by taking the very high diplomas of M.D. and M.R.C.P. Is such a man to be suddenly debarred from following the career for which he has prepared himself by being called upon without previous warning to pass the difficult examination necessary for admission to that very limited body the Fellows of the College of Surgeons?

A man's skill as an operator depends on his brains and on his fingers, not on the letters he writes after his name. I know Fellows of the College of Surgeons whom I would not trust to vaccinate a baby, and I know Fellows of the College of Physicians to whom I would unhesitatingly confide any operation they chose to undertake; and, *per contra*, if I were asked to select as obstetric physician to a hospital between a man who was an M.D. and F.R.C.P. Lond., whom I knew to be an inferior man, and a man who was a simple M.R.C.S. whom I knew to be a superior man, I would certainly select the better man of the two irrespective of his qualifications. If such a rule were to be enforced it would at once lead to a divorce between obstetrics and gynæcology. These subjects are each so large that I think it likely that such a separation will eventually take place by mutual agreement; but we are not prepared for it as yet, and to force it on by such an enactment would be to dislocate the teaching machinery of our schools. We boast of belonging to a country which has been wise enough to adopt free trade in commerce, yet we talk of adopting a protective measure which could not find a parallel in any other country of the world, in none of which do such mediæval distinctions between different branches of the profession exist.

Some of our more conservative friends tell us that we may with propriety interfere surgically in anything in midwifery, but that the moment any surgical interference is required in gynæcology the case must be handed over to the surgeons. I do not envy the position of an accoucheur, nor, for the matter of that, of his patient and her friends, who in deference to this opinion has acquired no surgical experience, when suddenly called upon to cope with such an obstetric emergency as a Cæsarean section, or a symphysiotomy, or a ruptured tubular fœtation, or a ruptured uterus. The plain fact is—and it is one which cannot be got over—that the evolution of medicine has produced a class of practitioners who are "physicians and surgeons" in a higher sense and the sooner sensible and unprejudiced men reconcile themselves to them the better.

I have been tempted to this somewhat polemical discussion because it is one of great moment and it is well that a senior member of the obstetric branch should have his say on behalf of his junior colleagues although he has himself no longer any personal interest in the matter; and I may speak all the more plainly because I have never myself experienced any difficulty of the sort and have always received the most kindly, generous, and ungrudging assistance from all my surgical colleagues in anything of an operative nature I have thought it right to attempt.

But do not suppose for a moment that in arguing in this way I am advocating over-much operative interference in gynæcology. None of you, I feel sure, to whom I and my work are well known will accuse me of want of caution in that respect. There is, I am constrained to admit, a good deal of unwise excess amongst us which is much to be deprecated. As we have to acknowledge that injudicious practitioners have erred in carrying out what is on the whole a right principle in the management of protracted labour, so also we have to acknowledge that injudicious practitioners have interfered surgically far more than most of us think justifiable, and in a way that brings discredit on themselves and needless risk to their patients. *In medio tutissimus ibis* is the wise and safe principle which should guide you in shaping your course. In the opposite direction we have to deprecate the tinkering practice adopted by the ultra-conservative gynæcologists who would shun surgical interference altogether, which was caustically described, not without some reason, by my friend Professor Clifford Allbutt in an often-quoted passage in which he talks of the patient as being "entangled in the net of the gynæcologist, who finds her uterus, like her nose, is a little on one side; or, again like that organ, is running a little; or it is as flabby as her biceps, so that the unhappy viscus is impaled upon a stem, or perched upon a prop, or is painted with carbolic acid every week in the year except during the long vacation, when the gynæcologist is grouse-shooting or salmon-catching or leading the fashion in the Upper Engadine."

It is difficult to say which sort of error is eventually worse for the patient. It is to be feared that one or other of them will be met with until the halcyon days arrive when the possession of a diploma provides its owner with judgment that never errs and with enthusiasm that never leads him astray.

I have left myself no time, I regret to say, to direct your attention to our gains in gynæcology during the years we have under review. I can only make a mere passing allusion to some of them, but they are no less remarkable than in obstetrics and may have all practically arisen from the great principle of antisepsis which has done so much for midwifery. One note of modern gynæcology which is remarkable is the increasing favour which the treatment of pelvic disease by the vaginal route is finding. Things are possible now, and with comparative safety, previously undreamt of. Thus malignant disease of the uterus, formerly left to run its course unchecked, can now be dealt with if detected sufficiently early—which is, unhappily, often not the case—by partial or total extirpation of the diseased organ and with reasonable hope of success. Then, again, certain diseased conditions of the appendages may also be treated by this route with less danger than by abdominal section. So also some of the most troublesome cases of pelvic inflammation following on childbirth or on morbid conditions of the tubes are being thus dealt with with increasing frequency, so also are certain diseases of the uterus such as small fibro-myomata, old-standing displacements producing serious symptoms, and other conditions which I merely mention without any expression of opinion. Many other topics suggest themselves, some of them involving most vexed questions, such as the treatment of fibro-myomata by hysterectomy, the removal of the appendages by laparotomy for various diseased conditions, or unhappily sometimes for no diseased conditions at all, the treatment of pelvic inflammations by abdominal section, and many others which cannot even be mentioned. One subject, however, I cannot pass over, as it has always interested me much, that is, the possibility of treating systematically and successfully the strange and manifold neurotic symptoms which so often shipwreck the lives of women and reduce them to a state of chronic invalidism previously quite hopeless. That cases of this sort, unhappily so common, can be so often, when

properly managed, restored to health is, in my judgment, one of the greatest gains to practical medicine in the last quarter of a century. This is, perhaps, not strictly a gynæcological matter, but it is often so closely connected with it that this passing allusion to it may be pardoned. I hope that even these few words may prove to you that gynæcology has not been at a standstill.

It is my firm conviction that the more scientific basis on which gynæcology is being placed by pathological, histological, and bacteriological research will ere long give it a position which it has hitherto lacked, as is not unnatural in a subject of comparatively recent development. And now, gentlemen, I cannot conclude without a word personal to myself. It is just thirty-five years since I came to London to seek a livelihood, as so many of my countrymen have done since the time of that "high and mighty Prince," James I. of England and VI. of Scotland. It is not an exhilarating thing to put up your brass plate in a city such as this, in which you could count your acquaintances on the fingers of one hand. I was greatly encouraged when in the same year the Council of King's College elected me to be assistant obstetric physician to this hospital. I may say of it, and I say it with the deepest gratitude, I was a stranger and it took me in. In retiring from the active work in connexion with it, which for so many years has been the chief occupation, and interest, and pleasure of my life, it would be a comfort to me if I could carry with me the conviction that the generous confidence thus shown to an unknown young man has not been entirely misplaced. It is a painful thing to say farewell. I cannot do it better than in the words of a prayer often offered up within these walls, "God bless King's College, and King's College Hospital, and all connected with them."

Remarks
ON
6657 ADMINISTRATIONS OF ANÆSTHETICS CONDUCTED AT THE LONDON HOSPITAL DURING THE YEAR 1897.

In three Clinical Lectures delivered at the Hospital

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LECTURE III.[1]

Delivered on Feb. 18th, 1898.

GENTLEMEN,—We have to consider to-day the two remaining parts of our subject. These are (1) the cases in which fatal symptoms, partly or wholly referable to the anæsthetic, were recorded; and (2) the after-effects in the various cases in which anæsthetics were administered. I have placed upon the board a simple table which explains itself. Of the 6657 cases in which anæsthetics were given there were only three in which the anæsthetic could in any way be held responsible for the fatal issue, and you will see that of these there is only one in which the anæsthetic was the sole factor. In the remaining two cases other factors more important than the anæsthetic must be regarded as having been present. I shall first of all deal with the case in the third column. It is one in which the fatal symptoms arose after the administration of ether, the state of the patient being the primary factor and the anæsthetic the secondary. The case is one which, so far as my experience and reading are concerned, is quite unique, and it is certainly of very great importance. It was this case coupled with one or two others in the course of this year's work which made me feel that our experience in this hospital should be put on record. The patient was a male fourteen years of age. About three months before admission he contracted typhoid fever and the attack was a severe one. He subsequently developed symptoms of appendicitis and was admitted to the hospital on Jan. 5th, 1897, to be operated upon for that affection. On Jan. 15th, the day of operation, the boy appeared to be in very fair health; he had good heart sounds, there was no cough or difficulty in breathing, and the abdomen was not distended. Ether was given to him by means of a Clover's inhaler and the administration lasted forty minutes. The induction of anæsthesia was perfectly smooth and there was no difficulty of any kind, but when the patient was fully under ether I noticed a great peculiarity about his breathing. In order to explain this to you I must first say that if you take the trouble to observe the respiration of patients under anæsthetics you will find that in most cases the abdomen rises with inspiration and falls with expiration, and that the sternum either remains practically stationary during both inspiration and expiration, or actually slightly recedes with the former and rises with the latter. The meaning is simple. It is that the diaphragm does most of the inspiratory work and by vigorously contracting produces such sudden negative pressure in the chest that the sternum actually falls in during the inspiratory contraction of the diaphragm. This is, however, not the case with all patients. One sometimes sees, especially in perfectly healthy young men and women, both chest and abdomen rising with inspiration, provided that no obstruction such as that expressed by stertor be present. If even mild stertor be audible the increased inspiratory effort needed to overcome the obstruction upon which the stertor depends will be made by the diaphragm and the sternum will at once begin to recede during respiration. I need hardly remind you that patients with rigid chest-walls will not display these phenomena to the extent observed in patients with yielding parietes. So far, then, as the abdomen is concerned we may say that it almost invariably rises during the inspiratory phase and falls during the expiratory. I had observed this in so many cases that you may judge of my surprise when I saw that in this boy under ether an exact reverse of the usual state of things was present, and that the abdomen instead of rising with inspiration was receding, and the sternum instead of receding was markedly rising. In other words, the breathing was entirely thoracic, the diaphragm being wholly inactive. I was so struck by the peculiarity that I called the operator's attention to it. There was also another unusual feature in the case. Although a plentiful supply of air was given—such a supply as under ordinary circumstances would have ensured a florid colour without any duskiness—this patient remained slightly cyanosed throughout. But beyond these two points, which might easily have escaped my attention had I not been interested in the different forms of breathing during anæsthesia, there was nothing to note. There was no difficulty of any kind; the respiration was regular and not hurried, the pulse was excellent, the pupils were as a rule moderately contracted, and there was no abnormal secretion of mucus. The operation was successfully performed and the patient was taken back to bed. Later in the day, however, it was noticed that more mucus than usual seemed to be present in the air-passages, that the respiration was 32 per minute, and that the pulse was 112. Breathing did not improve during the night, but it did not get much worse. The patient slept fairly well but complained of slight pain at the base of the left lung anteriorly. At 8 A.M. the next morning the pulse was 160, the respiration was 40, and there was a good deal of rattling in the chest. At 12 noon the breath sounds were harsh, with râles and rhonchi all over the chest except at the base of the left lung anteriorly, which was dull to percussion. The heart sounds

Cases in which Fatal Symptoms, partly or wholly referable to the Anæsthetic, were recorded.

Anæsthetic.	Factors. A. During the administration. Anæsthetic.	A. During the administration. 1. State of patient. 2. Operation. 3. Anæsthetic.	B. After the administration. 1. State of patient. 2. Anæsthetic.
Ether (2910 cases) ...	—	—	1
Chloroform (677 cases)	1	1	—
Totals	1	1	1

[1] Lectures I. and II. were published in THE LANCET of Feb. 19th and March 5th, 1898, respectively.

were almost indistinguishable. There was no increase of vocal resonance. The apex beat of the heart was not displaced. There were no signs of fluid or definite pneumonia. The respiration was 52. Stimulants were given, the inhalation of oxygen was employed, and the patient was propped up in bed. At 4 P.M. the respiration was 81, the pulse was 150, and the temperature was 102° F. At 10 P.M. the patient grew very dusky and he was bled, but only one and a half ounces of blood issued. No tubular breathing was audible, but both bases posteriorly were dull and the breath sounds were deficient. Strychnine and digitalis were injected every two hours, but there was no improvement and the patient died thirty-four hours after the operation. Unfortunately, no post-mortem examination was allowed, but everything seems to point to acute pulmonary œdema as the cause of death.

There is no doubt, I think, that in this case complete diaphragmatic paralysis was present before the anæsthetic was given. At the conclusion of the operation, indeed, the dresser of the case informed me that he had himself observed the peculiarity in the patient's breathing on the preceding day. With the cause of the paralysis of the diaphragm we are not, of course, concerned, but it is most probable that it arose as a result of the attack of typhoid fever, peripheral neuritis being one of the recognised sequelæ of this disease. As is well known, inaction of the diaphragm may be present without causing the patient any distress, provided that no great exertion be taken and that the thorax be sufficiently mobile to carry on respiration. In this case the elastic thorax was perfectly competent to take over the work of the diaphragm whilst the patient was at rest in bed, but when under the influence of ether both respiration and circulation became increased the thoracic movements were doubtless incompetent to fully oxygenate the blood passing through the pulmonary capillaries, and hence a certain degree of cyanosis was, as we have seen, produced. Moreover, when we bear in mind the fact that the pulmonary circulation is very largely dependent for its efficient maintenance upon free lung expansion the question arises whether the thoracic movements were sufficient during the administration to properly carry on this circulation, especially at the bases of the lungs. It is probable that they were sufficient, for had they not been more symptoms of distress would most likely have been noted. On the other hand, it is not, I think, unreasonable to suppose that the bases of the lungs were not expanded so efficiently by thoracic movement as they would have been had the diaphragm been in working order, and if this view be correct we can well imagine incipient pulmonary œdema from a comparatively sluggish circulation through the vessels in the bases of the lungs to have begun during the administration. Again, it must not be forgotten that the tranquil breathing which always accompanies recovery from ether anæsthesia must have been eminently favourable to the development of pulmonary stasis and œdema in a patient whose diaphragm was paralysed. One frequently sees instances, under all anæsthetics, of the respiratory centres resting, so to speak, after unwonted activity, and there can be little doubt that the phase of tranquil breathing through which this patient must have passed—a phase which commenced with the withdrawal of the ether inhaler and terminated with re-establishment of consciousness—was specially favourable in such a subject to the continuance of the hyperæmic pulmonary condition brought about by the administration of ether. It is well known that patients with diaphragmatic inaction are particularly prone to congestive and inflammatory lung complications, so that it is not very surprising that after forty minutes' etherisation such symptoms should have arisen in this patient. By this hypothesis it is, I think, easy to explain the occurrence of the œdema which unfortunately proved fatal. Had we not observed the diaphragmatic paralysis the case would undoubtedly have been lost sight of with others whose etiology is perfectly obscure. It is true that even with the data now at our disposal we cannot say for certain what was the immediate pathology of the pulmonary œdema, but I think you will agree with me that by the careful study of such cases as these we shall at all events tend to advance our knowledge as to the circumstances under which the pulmonary sequelæ of ether may arise.

Before dismissing the above case we should carefully consider whether it is capable of teaching us any lesson which may be of use for future guidance. It is, of course, somewhat difficult to say whether the chances of pulmonary complications would have been less had chloroform or the A.C.E mixture been employed instead of ether, but the probability is certainly in this direction. Again, with the experience of the case to help us, it is now easy to see that the unusual cyanosis met with during the administration might with advantage have been taken to indicate that a change from ether to chloroform should have been effected. I think we shall not be far wrong in the future if, on finding that the patient presented to us for anæsthetising has diaphragmatic paralysis, we adopt all means in our power to throw as little stress as possible upon both respiration and circulation. Possibly the use of chloroform in conjunction with oxygen would be the most suitable anæsthetic for such cases. There is just one other point which occurs to me in connexion with the case. It is that after the administration of an anæsthetic to a patient with diaphragmatic paralysis it may be advisable to assist respiration by intermittently compressing the lower ribs till consciousness has returned, in order to prevent as far as possible any circulatory stasis at the bases of the lung.

The next case occurred under chloroform, and there is very little doubt that the anæsthetic was the chief if not the sole factor. It is true that the patient was not in a perfect state of health, as he was the subject of slight chronic bronchitis, but there is no evidence that this contributed in any way to the fatal issue. He was a labourer, twenty-six years of age, well built and muscular. Owing to his bronchial affection it was thought advisable to administer chloroform rather than ether. He had, however, previously had ether for a short operation and no difficulties had arisen during the administration. I have before pointed out to you how very cautious you should be in giving chloroform, *ab initio*, to muscular men, and this case will illustrate far better than any remarks I have made how vigorous patients may die comparatively early in the administration of chloroform. The contemplated operation was for tuberculous epididymitis and the anæsthetic was given from a Skinner's mask. The patient took the chloroform fairly well till excitement commenced; there was then very considerable struggling which was attended by rigidity of the chest, arms, and legs. The rigidity lasted from thirty to forty seconds and necessarily led to embarrassment of breathing. At the end of this time, however, it passed off; two deep breaths were taken and the anæsthetic, which had been discontinued, was resumed. The report goes on to say that in about half a minute the conjunctival reflex was lost and the pupils were moderately contracted. But whilst the patient was being wheeled into the theatre it was noticed that breathing had ceased and that the face was cyanosed. The pulse, however, was then palpable at the wrist. Remedial measures were promptly applied (artificial respiration, strychnine, and brandy), but the pulse disappeared and, with the exception that about twenty respirations were subsequently taken at intervals of about a quarter of a minute, no further signs of animation were observed. Artificial respiration was nevertheless kept up for some time.

So many deaths of this kind have been recorded in our medical journals that it will, I think, be well worth while to carefully consider the facts just narrated. The first element in the case was undoubtedly the struggling. This led to a fixed condition of the thoracic and abdominal parietes, during which the absorption of the chloroform previously given and now locked up, as it were, in the air passages steadily continued. Under such circumstances as these the right side of the heart would find itself less able than usual to perform its work. In the first place, the struggling would tend to force an abnormal quantity of blood into its cavities; in the second place, the impeded pulmonary circulation would prevent those cavities emptying themselves as easily as in unrestricted breathing; and, in the third place, the heart would be to a certain extent dilated from the effects of the chloroform upon its muscular tissue. The absorption of the anæsthetic vapour during totally arrested breathing is an important point to bear in mind in studying fatal cases of this category. The muscular rigidity of the so-called struggling stage is very often associated with mechanically obstructed breathing from partially performed deglutition movements or other causes, so that neither can air enter the lungs nor can the imprisoned vapour leave them. So important is the absorption of chloroform during temporarily suspended breathing that I think it should be a rule to withhold the anæsthetic whilst the rigidity is subsiding and for some little while afterwards, and only to recommence the administration if there is a conjunctival reflex present. In the particular case before us it is stated

that the anæsthetic was not resumed till after two deep breaths had been taken at the conclusion of the rigid stage. But if we picture to ourselves the state of the circulation at that moment we shall, I think, agree that the blood must then have contained a good deal of chloroform and that the right side of the heart must have been somewhat overtaxed and distended as the immediate result of the struggling and self-asphyxiation through which the patient had just passed. It is clear that by recommencing the administration before a proper state of equilibrium has been established between the pulmonary circulation and the right cavities of the heart the fresh chloroform distributed to the heart muscle by the coronary arteries can only have the effect of still further dilating those cavities and rendering them unable to meet any further strain that may be imposed upon them. What the precise nature of this additional strain may have been in this case it is rather difficult to say. It is, however, fairly certain that some additional respiratory embarrassment arose and acted as the last straw. Either the upper air-passages again became mechanically obstructed as the patient was being moved into the theatre or the respiration came to a standstill as the immediate result of the toxic effects of the previously absorbed chloroform upon the nervous centres, or both conditions were present. But whatever may have been the cause of the arrest of breathing the final result upon the embarrassed and poisoned heart muscle was the same—viz., to arrest its action.

It will be well in this connexion to say something on the much-discussed question whether under chloroform the respiration fails before the circulation or the circulation before the respiration. In considering this question it is necessary in the first place that two considerations should be borne in mind. The first of these is that failure of the wrist pulse is by no means synonymous with failure of the heart. The second is that there are three distinct ways in which breathing may come to a standstill under chloroform—the state of the circulation at the moment when breathing ceases being very materially dependent upon the form of respiratory failure. (1) With regard to the first of these considerations I may tell you that I have seen many cases in which the wrist pulse has become almost or completely imperceptible although the heart has been acting, though feebly, at the time. The clinical question whether the pulse fails before respiration or *vice versâ* must therefore not be confounded with the physiological question whether the heart ceases before the respiration or *vice versâ*. Many have imagined that because they have met with cases in which the pulse has vanished at the wrist whilst respiration has been proceeding the physiological dictum that respiration stops before the heart is opposed to clinical evidence, but this is not really so. During the fall of blood-pressure in deep chloroform anæsthesia the pulse may disappear whilst the heart is still acting; then the breathing ceases; and, finally, the heart. You will remember that I have in a previous lecture emphasised the necessity for watching the pulse in *deep* chloroform anæsthesia; and it is by doing this that you will often be able to avoid disaster. (2) The next consideration is important, and it is one, moreover, to which physiologists have not perhaps directed sufficient attention. During anæsthesia breathing may become arrested (*a*) from mechanical obstruction, (*b*) from spasm of the respiratory muscles, or (*c*) from paralysis of the respiratory nervous mechanism. Now the first two forms of respiratory failure are most likely to be met with during comparatively light anæsthesia—i.e., when the general systemic circulation is fairly good; and under these circumstances the pulse may remain palpable at the wrist for a considerable time after breathing has ceased. In the third form of respiratory failure, however, the arterial tension at the moment of the arrest of breathing is so low that either there is no pulse to be found at the wrist or it is barely palpable, or if it is fairly palpable it quickly disappears. In the human being under chloroform there is a very great tendency to mechanically obstructed breathing from a variety of causes; and it is this tendency which, to my mind, places the human being upon a somewhat different footing, so far as the physiological action of chloroform is concerned, to lower animals. Considerable experience is needed to detect some of the more insidious forms of mechanically impeded breathing. Indeed, in many cases this element of obstruction plays a far more important part in the administration than the chloroform itself. It is impossible on this occasion to enter upon a consideration of the various ways in which breathing may become obstructed. All I wish to say now is that the lower animals do not display these tendencies and it is therefore, in my opinion, erroneous to argue from the one to the other without taking these differences into consideration. It is in the highest degree probable that in the case last quoted some obstructive condition acted as the last straw in upsetting the circulatory balance. It is quite certain that respiration was primarily interfered with, for the pulse was palpable when breathing had become arrested. The final gasps, at long intervals, only came on after the muscular system had completely relaxed and cardiac action could not be restored, and they cannot, I think, be regarded as indicating the continuance of true respiration. They were analogous to the final gasps met with in the course of asphyxia, but by the time they appeared it was impossible to restore cardiac action. From what I have placed before you you will, I think, see that in cases of anxiety under chloroform one of three clinical conditions may be present. You may either have (1) the respiration ceasing before the pulse, (2) the pulse ceasing before the respiration, or (3) both ceasing simultaneously; and you must bear in mind that neither of these conditions is incompatible with the physiological fact that in an overdose of chloroform respiration ceases before the heart.

The next case is one in which death occurred during the administration of chloroform, but the anæsthetic had very little indeed to do with the fatality. In a great many hospitals it is customary to attribute such deaths entirely to surgical shock, but one cannot, I think, wholly exonerate the anæsthetic. The patient was a male, suffering from empyema, and he was in a very unsatisfactory general condition. It was proposed to remove two pieces of rib. Chloroform was given, but only in small quantities, and while the pus was escaping, the patient stopped breathing and died. The case must, I think, be considered as one in which the state of the patient was the primary, the operation the secondary, and the anæsthetic the tertiary factor. With regard to the use of anæsthetics in cases of empyema I may say that the most favourable ones are the extremely chronic and the worst the very acute. If a patient has had an empyema for some weeks or months and his respiration has become adapted to the altered circumstances there is very little special risk. But if you should be called upon to give an anæsthetic to a patient with pleuro-pneumonia running on to empyema you should be very cautious. The worst cases of all are those in which the patient is muscular or obese, the temperature high, the pulse quick, and the face flushed and dusky. In such patients the respiratory apparatus has not yet become accustomed to its altered circumstances. In cases of empyema one of the most important points is the posture of the patient. If the patient be a heavily built man with but one lung available for respiration, and if he be turned over to his sound side it will be obvious that the weight of the trunk may seriously impair the working of the sound lung. Whenever it is practicable, therefore, you should endeavour to place your patient in such a posture that his breathing is as little impaired as possible. In chronic cases either may be given perfectly well, and I have even used it with advantage in moderately acute ones in which a short and partial anæsthesia seemed indicated; but if ether be used it is imperatively necessary that it should be given by the open method with plenty of air. All inhalers with bags must be avoided. In the acute and comparatively recent cases struggling and rigidity are more likely to arise than in others and, as I have already pointed out to you, this stage of struggling is the most dangerous stage under chloroform. If, therefore, you suspect from the type of your subject that struggling and rigidity will arise I would strongly advise you to endeavour to pass over that stage under ether and, if necessary, to change to chloroform subsequently. If a muscular patient with recent empyema become rigid the heart may quickly fail. It is, indeed, cardiac rather than respiratory failure that is to be feared in cases of this kind.

It now remains for me to direct your attention to the records of after-effects. The gastric disturbances which are unfortunately liable to follow the administration of chloroform, ether, and allied anæsthetics deserve special attention, for from the point of view of both patient and surgeon they are often exceedingly objectionable. We are, perhaps, too prone to look upon some degree of nausea and vomiting as necessarily consequent upon ether and chloroform anæsthesia and to imagine that if we have arranged the diet of the patient before the operation we have done everything that

is possible in the way of preventing these unpleasant sequelæ. Only those who have undergone operations under ether or chloroform and have suffered severely from after-vomiting can thoroughly appreciate the importance of studying this branch of the subject. Let me first of all deal with the facts at our disposal. It is a very difficult matter to collect statistics of after-effects, for, in order that any case may be complete it is necessary that we should have details as to the kind of nourishment last taken, the interval between the taking of this nourishment and the operation, the anæsthetic used, the length of inhalation, the nature of the operation, and the extent of the nausea, retching, or vomiting afterwards. I shall refer only to gastric after-effects following the use of other anæsthetics than nitrous oxide. Out of our 6657 cases I am sorry to say that I have only been able to obtain full details as to after-effects in 275, and I find that these can be arranged in four classes, as follows:—

Gastric After-effects of Anæsthetics other than Nitrous Oxide (275 cases).

Class I. (no after-effects)	109
Class II. (slight after-effects)	109
Class III. (moderately bad after-effects)	35
Class IV. (severe after-effects)	22
Total	275

The subjoined table shows the anæsthetics given in these 275 cases.

—	Class I.	Class II.	Class III.	Class IV.	Total.
Ether	43	44	18	6	111
A.C.E.	7	7	—	2	16
Chloroform	6	1	—	1	8
Gas and ether	19	25	8	5	57
A.C.E. and ether	9	10	3	3	25
A.C.E. and chloroform	5	5	—	—	10
Ether and chloroform	8	9	4	2	23
A.C.E., ether, and chloroform	9	5	—	1	15
Gas, ether, and chloroform ...	3	3	2	1	9
Gas, ether, A.C.E., and chloroform	—	—	—	1	1
Total	109	109	35	22	275

Unfortunately the number of cases in which chloroform after-effects were recorded is so small that it is impossible to draw any conclusions as to the relative severity of gastric disturbances after this as compared with other anæsthetics. The following calculations are, however, of interest. We can compare the cases in which ether was either used throughout or was preceded by nitrous oxide or the A.C.E. mixture as preliminary anæsthetics with those in which ether was given for the first part of the administration and was subsequently changed for chloroform. Thus:—

Ether.		*Ether followed by Chloroform.*	
Ether	111	Ether and chloroform	23
Gas and ether	57	A.C.E., ether, and chloroform	15
A.C.E. and ether	25	Gas, ether, and chloroform ...	9
Total	193	Total	47

When worked out in percentages we find the following results:—

Ether.	Per cent.	*Ether followed by Chloroform.*	Per cent.
Class I.	36·78	Class I.	42·56
Class II.	40·85	Class II.	36·19
Class III.	15·02	Class III.	12·75
Class IV.	7·25	Class IV.	8·51
Total	100·00	Total	100·00

It is only right to bear in mind in studying these figures that they are after all based upon very few cases; still, they seem to point to certain conclusions which we have arrived at in other ways, so I have placed them before you. You will see that whilst 36 per cent. of the ether cases had no after-affects 42 per cent. of the others were similarly fortunate; whereas whilst the frequency of severe after-effects in the ether cases is represented by 7·2 per cent., this frequency comes out at 8·5 per cent. in the others. In other words, patients are more likely to suffer from slight after-effects when ether has been used, but the chances of protracted vomiting are greater when chloroform has been administered. Further data are, of course, needed to make this point finally certain. The influence of the length of abstinence from food is very fairly shown by the following figures:—

Average Abstinence from Food.

Classes I. and II. combined (no after-effects or very slight)	4 h. 4 min.
Classes III. and IV. combined (moderate or severe after-effects)	3 h. 50 min.

There can, I think, be no doubt that an abstinence of at least four hours should be enforced, and if it be somewhat longer so much the better. Clear soup or beef-tea without any solids is on the whole the best form of nourishment before an operation. Milk and eggs should be avoided. In private practice an endeavour should be made to interfere as little as possible with the patient's usual hours for meals. Thus, for early morning operations (up to 10 A.M.) he should have a light dinner the night before at his usual time and nothing whatever after. In the case of an operation about 2 P.M. he should have a light breakfast at his usual time and nothing after. The practice of giving a patient beef-tea at 6 A.M. before a 9 o'clock operation is open to objection, and the same remark applies to beef-tea or soup at 11 A.M. before a 2 o'clock operation. The stomach should not only be empty when an anæsthetic is given but digestion should have finished for some little time.

The next statistics are interesting, for they show the very decided influence which the length of administration has in determining gastric after-effects:—

Average Duration of Administration.

Class I.	30 min. 3 sec.
Class II.	34 min. 52 sec.
Class III.	41 min. 39 sec.
Class IV.	41 min. 51 sec.

The lesson to be learnt from these figures is that patients should not be kept longer under anæsthetics than is necessary, for it is clear that, other things being equal, the longer a patient inhales an anæsthetic the greater will be the chances of after-effects.

I may here say something as to the prevention and other treatment of the above sequelæ of anæsthesia. I have already alluded to the regulation of the diet. In addition to this it is essential that the bowels should be thoroughly evacuated. This is best done by administering a purgative the night but one before the operation and an enema on the morning itself. As regards the administration the patient should be rendered deeply insensible as quickly as is compatible with safety; a deep anæsthesia, free from swallowing movements, should be maintained; the head should be kept upon the side for the escape of mucus and saliva and the mouth should be frequently wiped out. If it be necessary to move the patient from the operating table to a bed this should, if possible, be done during deep anæsthesia. When in bed he should be turned well upon his side, the bed should not be moved, and the room should be kept quiet. Putting exceptional cases on one side, no nourishment whatever should be given until the patient himself asks for it. If nausea, retching, or vomiting be present the first thing to do is to give at frequent intervals two or three ounces of very hot water to drink. The taste of ether is best overcome by moistening the lips with lemon juice. If there appears to be a neurotic element present, enemata of twenty grains of bromide of potassium in two ounces of water will often answer well. I have found the inhalation of vinegar from a towel very useful in arresting vomiting and I may say the same of the application of a mustard leaf to the epigastrium. By one or other of these plans you will find that you will be able to successfully treat the unpleasant after-effects of anæsthesia.

ABSTRACT OF

The Erasmus Wilson Lectures

ON THE

PATHOLOGY AND TREATMENT OF THOSE DISEASES OF THE LIVER WHICH ARE AMENABLE TO DIRECT SURGICAL INTERFERENCE.

Delivered at the Royal College of Surgeons of England on Feb. 21st, 23rd, and 25th, 1898,

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LECTURE III.[1]

Delivered on Feb. 25th.

MR. PRESIDENT AND GENTLEMEN,—In this my third and final lecture I propose to consider two important groups of hepatic affections. The first group includes those affections which are directly dependent upon a mechanical injury and the second group those tumours of the liver which can be removed by a surgical operation.

3. TRAUMATIC AFFECTIONS OF THE LIVER, PERFORATING AND NON-PERFORATING.

A non-perforating injury of the liver may cause a solution of continuity in the hepatic tissue together with the overlying portion of Glisson's capsule, or the injury may simply affect the hepatic tissue proper, the capsule remaining intact. When the capsule escapes the injury is called a contusion and when it is involved it is called a rupture or laceration. Ruptures may be partial or complete, according to whether a portion is partially or completely separated from the rest.

[Mr. Waring here enumerated the modes of production of contusion or rupture of the liver, whether by direct violence, by indirect violence (*contrecoup*), by pressure, or by muscular contraction. He then described the symptoms and diagnosis and continued:]

Treatment.—In most cases the first treatment is that which has for its object the abatement of the symptoms of shock and collapse. The patient should be placed in bed and kept absolutely quiet, warmth applied, and if the pulse is feeble hypodermic injections of strychnine should be given. It is not advisable to administer either alcohol or ether since both these substances dilate the small blood-vessels and tend to increase any hæmorrhage which may be taking place. After the patient has recovered from the shock and collapse and there are no signs of internal hæmorrhage or symptoms of injury to the abdominal part of the alimentary canal rest in bed and careful nursing will often be followed by recovery. During the early stages it is not advisable to give highly nitrogenous foods, especially those which contain an excess of extractives, such as beef tea, since they throw increased physiological work on the liver. When signs and symptoms of hæmorrhage into the peritoneal cavity develop and gradually or quickly increase immediate recourse must be had to a surgical operation. The sooner this is performed the greater the chances of recovery of the patient. The abdomen is opened by making an incision either in the upper part of the linea alba or in the right linea semilunaris, usually the former. When the signs point distinctly to injury of the right lobe of the liver the incision should be made on the right side. The incision should be four inches or more in length and should commence either at the ensiform cartilage or at the ninth costal cartilage. All hæmorrhage from the vessels in the abdominal wall should be arrested before the search for the seat of internal hæmorrhage is commenced. When this has been done an attempt is made to locate the source of hæmorrhage. All blood or other fluid should be removed from the exposed part of the peritoneum by careful sponging and the source of the blood traced. If the blood appears to come from the liver or a rupture of the liver at once becomes visible the bleeding should be temporarily arrested either by applying sponge pressure to the wounded area or by compression of the hepatic vessels as they lie in the gastro-hepatic omentum. Often it is advisable when the blood appears to come from the liver to at once apply pressure to the hepatic artery and the portal vein. This can be done either by passing the hand underneath the inferior margin of the right lobe, placing the forefinger in the foramen of Winslow, the thumb in front of the lesser omentum, and applying pressure or by using an instrument such as the one I have here. This instrument I have used in my later experiments upon dogs and have found it very serviceable. It does not take up so much room as the hand and is more efficacious in controlling the circulation. In order to apply it to the portal vein and the hepatic artery the blades are separated, the distal one is placed in the foramen of Winslow, the proximal is put in front of the gastro-hepatic omentum, and then the two are approximated until the circulation in the compressed blood-vessels is arrested. When the hepatic circulation has been controlled all traces of blood are removed by careful sponging and the extent of the injury made out. If either the anterior or the inferior portions of the liver are found to be the seat of injury and the site of hæmorrhage it will generally be possible to at once deal with the damage through the abdominal wound. It may, however, be necessary to enlarge this incision in a vertical direction or to make a second incision in the abdominal wall at an angle to the upper extremity of the vertical one. When the rupture extends to the superior surface it may even be necessary to remove portions of the exposed costal cartilages in order to render the rent in the hepatic substance accessible for the application of sutures. In every case the damaged portion of the liver must be brought as far into the abdominal wound as possible. This may be facilitated by one assistant exerting pressure in a forward direction from the right lumbar region so as to lift up the organ and a second assistant rotating it slightly from the front. The intestines should be carefully covered with flat marine sponges and kept out of the way. The repair of the rupture in the liver may now be proceeded with. The ruptured surface is carefully sponged so as to remove all blood-clot and any blood-vessels which are visible on the surface of the wound are picked up with forceps and ligated with silk. Next the pressure on the vessels in the portal fissure is relaxed so as to make sure that a large branch of the hepatic artery or portal vein has not escaped observation. When this has been done the margins of the rupture are brought into exact apposition and fixed by the insertion of a series of sutures. The suture material should be medium-sized silk; catgut is more liable to slip and give rise to secondary hæmorrhage. A fully-curved Hagedorn's needle with a blunt point should be used for inserting the sutures. If too sharp a needle be used the hepatic vessels may be pierced and hæmorrhage take place from them along the sutures. Each suture should enter the liver tissue about one-third of an inch from the margin of the rupture, pass through the liver tissue to the bottom of the wound, and then through the liver tissue on the opposite side until it emerges at a point one-third of an inch beyond the other margin. These sutures should be introduced at intervals of one quarter of an inch and all should be inserted before any are tied. When all the sutures have been inserted they are carefully tied and their ends cut short. Great care is requisite in tying the sutures, otherwise they cut through into the wound. This is avoided by only tightening them sufficiently to hold the margins of the rent in apposition. Further injuries are now sought for and, if found, treated in a similar manner. The area of operation is then sponged dry and the artery compressor which controls the circulation in the hepatic artery and portal vein relaxed and removed if no further hæmorrhage occur. The sponges are now removed from the peritoneal cavity and the exposed viscera examined for injury. If none is discovered and there is no sign of hæmorrhage the margins of the abdominal wound are approximated and fixed in apposition by careful suturing. If slight hæmorrhage or oozing occur from the margins of the rupture or the suture apertures in the liver a strip of aseptic gauze should be carefully packed over the bleeding part and one end brought out of the abdominal wound, a small part being left open for the purpose. This will usually arrest slight

[1] Abstracts of Lectures I. and II. were published in THE LANCET of March 5th and 12th, 1898, respectively.

hæmorrhage; it is withdrawn at the end of twenty-four or thirty-six hours when the wound is dressed. I have made a considerable number of experiments in order to test this method of treatment and with one exception have had good results. In one animal, however, in which I used catgut as the suture material some of the sutures gave way and the animal died from intra-peritoneal hæmorrhage. This may have been due to defective suturing on my part, but as far as I know I took the same precautions as when I used silk. Small ruptures of the liver will, I think, be quickly cured if this method of treatment be adopted and many cases of more extensive rupture will be saved if they are recognised early and the shock and collapse dependent upon the injury are not very severe. Martin has recently reported a case of rupture of the liver which he successfully treated by immediate laparotomy and suture. When the injury to the liver is extensive and it is not possible to bring the margins of the rupture together the best method of treatment appears to be ligature of all accessible bleeding points and then careful packing of the entire injured area with long strips of aseptic gauze.

When a portion of the liver is completely detached the shock and collapse will usually be fatal. It seems possible, however, if the left lobe is the part detached, that opening the abdomen as soon as possible after the reception of the injury, and the adoption of treatment based upon the principles which I have just discussed, may in favourable cases terminate in recovery. In order to control hæmorrhage when the extremity of the left lobe is the seat of the rupture it will be sufficient to pass an elastic ligature around this portion of the liver and tighten it until the circulation in the blood-vessels of the part is arrested.

[Mr. Waring here dealt with the subject of penetrating wounds of the liver, which he said were usually due either to stabs or to the projectiles of firearms. As regards treatment, the main precautions to be observed are similar to those which have been recommended in connexion with ruptures. He then continued:]

Prognosis and results of operations.—The prognosis in injuries of the liver has improved considerably since it has been considered possible to treat them by ordinary surgical measures. I have been able to collect from surgical literature 25 cases of rupture of the liver which have been treated by a surgical operation. 16 of these terminated fatally and 9 recovered. Terrier and Auvray state that in their list of 11 cases 6 recovered and 5 died. The time of operation appears to have an important bearing on the success of an operation for a rupture of the liver. The earlier this is performed the greater is the prospect of recovery. Concerning perforating wounds of the liver which are submitted to operation the prognosis appears to be much better than in the case of non-perforating ones. Thus in Terrier and Auvray's list of 34 cases 25 recovered and 9 terminated fatally. Of these 20 were incised wounds due to stabs, &c. (15 recovered and 5 were fatal); whilst 14 were gunshot wounds and of these 9 recovered and 5 were fatal.

RESECTION OF THE LIVER.

By the term "resection of the liver" is understood the removal of a portion of the liver by a surgical operation. This is quite a modern operation and it is only during the last ten years that surgeons have performed operations with the object of removing pathological growths from the liver. According to Keen up to the present time 59 cases have been recorded in which a portion of the liver has been removed. In all operations upon the liver hæmorrhage from the hepatic blood-vessels has been a source of trouble and in some cases it has been the cause of death. In order to control hæmorrhage or to avoid its occurrence during removal of a portion of the liver a number of different procedures have been devised. I shall first deal with the control and arrest of hæmorrhage from the hepatic tissue and then consider the separate forms of operation. There are five methods of dealing with hæmorrhage which may be employed.

1. The first of these is the application of ligatures to the cut extremities of the hepatic vessels. Liver tissue in which some of the blood-vessels have been divided tends to bleed freely and so obscure the points from which the hæmorrhage is taking place. This renders the application of a ligature difficult. Firm sponge pressure on the bleeding part will, however, usually enable the surgeon to see the bleeding points and to seize them with artery forceps. The veins in the hepatic tissue have walls which are as resistant as those of the arteries, a circumstance which facilitates the application of ligatures. When the bleeding points have been picked up ligatures are applied. Floss silk of medium thickness should be used for the purpose and each knot should be tied slowly and firmly. Too much force must not be exerted, otherwise the hepatic tissue and vessel will be cut through. This also occurs if the silk be too hard or too fine. In some cases it is advantageous to pass a ligature under the vessel with a needle. In this case the point of the needle should be blunted, otherwise it may pass through other blood-vessels and cause fresh hæmorrhage. When large branches of the hepatic artery or portal vein are cut through the hæmorrhage is severe and difficult to control by sponge pressure.

2. The next method of dealing with hæmorrhage is by packing with tampons or strips of aseptic gauze. This is a valuable method of arrest of hæmorrhage when only small vessels are cut or torn through, but when large vessels are involved it is of little use. In arresting hæmorrhage by this method the bottom of the wound should be carefully packed with strips of gauze; this packing is continued until the entire wound is filled and then firm pads are fixed in position over the incised portion with a bandage.

3. The third method is the application of heat by the cautery. Paquelin's cautery has been used most frequently for this purpose, but a cautery iron heated to a dull red heat is more satisfactory. An objection to the use of a cautery is the necessary destruction of a layer of hepatic tissue. This must separate before healing of the affected parts can take place. This is not a very satisfactory method, as it fails to arrest hæmorrhage from large vessels and it is difficult in its application. It is most useful in the incision of a deep-seated hepatic abscess, as the cauterised surface prevents absorption of septic matter as the pus escapes from the interior of the abscess. This method has been used by Keen for making an artificial pedicle to a tumour in order to apply an elastic ligature. When a Paquelin's cautery is used for incision of liver tissue it should be at the lowest dull red heat possible.

4. The elastic ligature has been employed both for the temporary control of hæmorrhage and for the constriction of tumours which have either a normal or artificial pedicle. When the amount of liver which it is wished to constrict is large a blunt cannula should be passed through the middle of the base of the tumour and a rubber tube drawn through. The pedicle can then be constricted in two halves. An objection to the use of the elastic ligature for the constriction of tumours and the promotion of their separation by gangrene is that the operation must be extra-peritoneal and the stump be left in the wound. When a tumour has been treated by elastic constriction and it has sloughed off the base of the stump which remains usually takes a long time to heal.

5. The next method of controlling hæmorrhage from the liver is by compression of the hepatic artery and the portal vein in the gastro-hepatic omentum. This may be effected either by digital compression, the forefinger being placed in the foramen of Winslow and the thumb in front of the lesser omentum, or by the application of a compressor after the style of the one which I have devised, or by perforating the lesser omentum and applying a temporary ligature to the hepatic artery and portal vein. The safest and easiest of these methods is the application of the compressor. I have made a number of experiments to test the relative value of the different methods and find that this is the most reliable and is moreover less likely to cause damage to the structures compressed. From a consideration of all these methods of controlling and arresting hæmorrhage during and after operations upon the liver and in the treatment of hepatic injuries I think that the best methods are the application of temporary pressure to the hepatic artery and portal vein as they lie in the hepatic omentum and ligature of the separate vessels which are cut across.

Several methods have been practised for the removal of tumours of the liver the most important of which are the following.

1. The elastic ligature may be employed. In this operation the abdomen is opened by making a vertical incision over the prominent portion of the hepatic tumour. The tumour with the adjacent portion of the liver is brought well into the wound and fixed in this position by the insertion of a ring of sutures. Each suture passes through the abdominal wall and through the hepatic tissue immediately beyond the diseased part. When the liver has been fixed thus an elastic ligature is applied to its

base and tied tight enough to arrest the circulation in the part distal to the line of application of the ligature. Aseptic dressings are applied. This ligature causes gangrene of the tumour and the portion of liver beyond the ligature. At the end of ten days or less the gangrenous mass can be separated. The base of the stump will then heal up by granulation. Strict care must be taken to prevent the dead tissue becoming septic, otherwise suppuration will occur and give rise to unpleasant results. Many tumours of the liver cannot be treated by this method owing to the fact that they are embedded in the liver and have no distinct pedicle. In order to obviate this difficulty Keen proposes that a deep groove should be made in the hepatic tissue surrounding the tumour with the knife of a Paquelin's cautery. An elastic ligature is then applied at the bottom of this groove and the parts are well packed with gauze. Keen has recently reported a case which he successfully treated in this manner.

2. A second method of removal of hepatic tumours is by fixation of the affected part of the liver in the abdominal wound and removal at a later period. In this operation the abdominal cavity is opened by an incision over the hepatic tumour. The tumour and the adjacent parts of the liver are brought into the parietal wound and fixed there by the insertion of a ring of sutures as in the preceding operation. Aseptic dressings are then applied. After the expiration of several days (from three to five) the removal of the tumour is carried out. It may be removed either with a knife or with a Paquelin's cautery by cutting through the base of the tumour. As the liver is cut through and the diseased part removed the cut surface should be covered with a sponge and pressure applied so as to arrest temporarily any hæmorrhage which may occur and also prevent the entrance of air into the intra-hepatic veins. When the portion of liver has been detached the sponge pressure is relaxed and all bleeding points on the cut surface are ligated with silk. When all hæmorrhage has been arrested the cut surface is sponged dry and aseptic dressings are applied. The wound which is left heals up by granulation. This often takes a long time and a sinus from which bile is discharged may remain.

3. Small tumours may be treated by dissection of the tumour or cyst from the liver, suture of the hepatic wound, and closure of the parietal wound. Tumours of the liver which are encapsuled—such as adenomata and some forms of hydatid cysts—may be separated from the liver by careful dissection. When this has been done the margins of the wound in the liver are brought into apposition and fixed by the insertion of a series of silk sutures. The external wound is then closed in the usual manner.

4. The next method of treatment is by excision of the diseased portion of the liver by a "wedge-shaped incision." The operation is performed thus. The abdomen is opened and the diseased portion of the liver exposed. The circulation in the hepatic artery and portal vein is controlled by the application of pressure to the gastro-hepatic omentum. When this has been done the diseased portion is brought out through the parietal wound and surrounded with flat marine sponges. The liver is now incised by making an incision around the tumour. This incision is deepened in such a manner that the two sides of the incision meet one another in the substance of the liver beyond the tumour. The piece of liver with the tumour thus separated is now removed. It has the form and shape of a blunt wedge and the wound which is left after the removal of the diseased portion presents two surfaces which can easily be brought into apposition in a manner similar to that in which the flaps of an amputation are approximated. The blood-vessels which have been divided are now picked up with artery forceps and ligatured with silk. These vessels can be recognised by their open mouths. When all visible vessels have been ligatured the pressure on the blood-vessels in the portal fissure should be gradually relaxed and any further bleeding points which become apparent should be picked up and ligatured. The margins of the hepatic incision are now brought into apposition and fixed by sutures. When the wound is deep it may be necessary to unite the deeper parts by buried sutures, but usually this is not necessary. The sutures should be inserted with a blunt-pointed, fully-curved Hagedorn's needle. Each suture should enter the liver tissue one-third of an inch from the margin of the wound, pass to the bottom, and then through the tissues on the opposite side. The sutures should be inserted at intervals of one quarter of an inch and all should be introduced before any are tied. When all have been inserted they are tied and the ends cut short. Each suture is tied tight enough to hold the margins of the incision in apposition, but not tighter, otherwise it is liable to cut out. The stump of liver tissue is now sponged dry and returned into the peritoneal cavity. The protecting sponges are then removed and the abdominal wound is closed in the usual manner. If there is much oozing from the suture apertures in the liver tissue it may be advisable to pack the area of the wound with a long strip of gauze, one end of which is brought out through the parietal wound, a small part of which is left open for the purpose. This, however, will generally be avoided if a blunt-pointed needle is used for inserting the sutures.

Indications.—The clinical conditions which may be considered to indicate the performance of a surgical operation for the removal of a portion of the liver are as follows: 1. Carcinoma of the gall-bladder, in which the disease has not extended beyond the gall-bladder and the adjacent portion of the liver, and there are no signs of secondary growths either in other parts of the liver or in other viscera. 2. The presence of a localised non-malignant tumour of the liver, such as angioma, angio-fibroma, fibroma, or adenoma, which is increasing in size and is giving rise to trouble. 3. The presence of a localised hepatic tumour which is due to a mass of echinococcus multilocularis. 4. Congenital hernia of a portion of the liver in which the herniated portion cannot be returned within the abdomen. A case of this kind has recently been recorded by Wittig. The patient was a child with a large congenital hernia in the epigastric region due to imperfect closure of the abdominal wall. This was excised with a successful result. 5. Sarcoma primary in the liver occasionally occurs and has been treated by excision. In one case the patient was alive two years afterwards and in the other the disease recurred in a few weeks and the patient died. Primary carcinoma of the liver is exceedingly rare. If it is in the form of a localised tumour an attempt may be made to remove it. The liver is frequently the seat of secondary malignant growths; it is, however, a contra-indication against the performance of a surgical operation for their removal. When a tumour of the liver is under consideration and there is a possibility that it may be due to syphilis an operation should not be attempted until a course of anti-syphilitic treatment has been tried and has failed. If by any chance the abdomen has been opened and a tumour of the liver has been found to be a gumma the wound should be at once closed and no attempt at removal made. Anti-syphilitic treatment should then be adopted. In doubtful tumours in the hepatic region which do not improve under a course of anti-syphilitic treatment it is advisable to open the abdomen and make an examination of the tumour. No harm can be done if the strictest aseptic precautions are observed and often much valuable information as to the condition of affairs may be obtained. When the tumour is found to be suitable for removal the operation is proceeded with and when it is found to be syphilitic, or to be a secondary or a multiple malignant growth, or when on account of its size and connexions removal is not practicable, the wound should be at once closed.

Prognosis.—Of the 59 cases of removal of portions of the liver which have been recorded in surgical literature and collected by Keen the operation has been performed for hydatids 14 times, for tumours syphilitic in character 11 times, for carcinoma 10 times, for adenoma 6 times, for angioma 5 times, and for sarcoma 4 times; and once each for several other different conditions. Of these cases 49 recovered, 9 terminated fatally, and in 1 the result was not known. The cause of death in 7 cases was shock, hæmorrhage, and exhaustion and in 2 it was septicæmia. I have made a considerable number of experiments upon animals with the object of ascertaining which is the most satisfactory method of removing a portion of the liver. The result of these experiments has been to show that in animals the best and safest method is that by the wedge-shaped incision which I have described and intra-peritoneal treatment of the stump. If care be taken to have a reliable assistant, and to properly control the circulation in the hepatic artery and the portal vein, removal of a portion of the liver can be carried out almost bloodlessly. I have, however, had no experience of Keen's modification of the elastic ligature. I think that in this method there is a greater liability to the occurrence of hæmorrhage than by incision and there are also the dangers of sepsis in connexion with gangrene of the constricted part.

Amount of liver which may be removed.—In animals I have several times removed half the liver without producing any

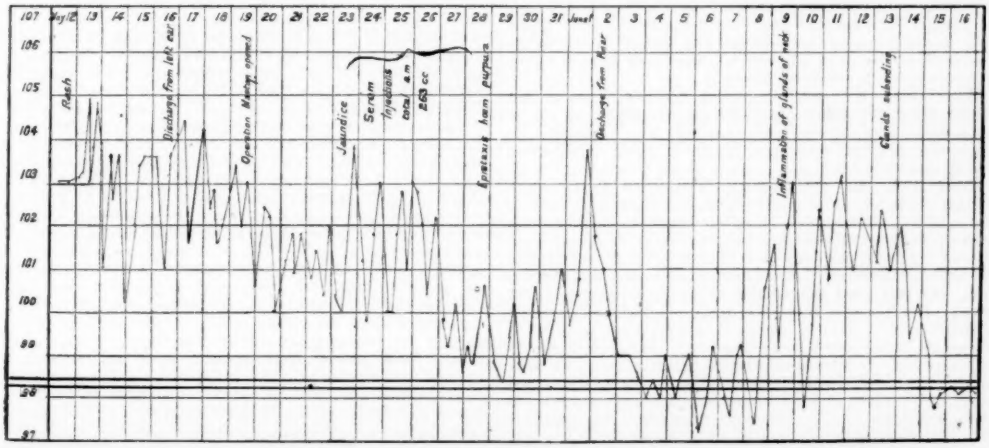
ill-effects. If, however, two-thirds or more of the organ are taken away the operation is usually fatal. Ponfick has made a similar series of experiments and has come to like conclusions.

Regeneration of liver tissue.—The liver tissue appears to be regenerated by a new formation from the part of the organ which remains. If half the liver of an animal be removed and it be killed at the expiration of two months the liver has regained its ordinary size. From the series of experiments which I have made upon many animals and a study of all the recorded cases of removal of portions of the liver in man I have come to the following conclusions, viz.:—1. That the dangers of hæmorrhage after removal of portions of the liver have been much exaggerated. 2. That the best method of controlling and arresting hæmorrhage from liver tissue after it has been incised or torn is by temporary compression of the blood-vessels in the gastro-hepatic omentum and then ligature of the divided vessels. 3. That when the liver is the seat of growths such as I have mentioned a surgeon ought to be prepared to carry out an operation for their removal. 4. That the mortality which will result from operations of this kind is not greater than in many of the recognised abdominal operations, such as resection of the intestine.

A CASE OF SCARLET FEVER COMPLICATED WITH ACUTE SUPPURATIVE OTITIS MEDIA AND ACUTE HÆMORRHAGIC SEPTICÆMIA TREATED BY ANTI-STREPTOCOCCIC SERUM; RECOVERY.

BY HAROLD LOW, M.A., M.B., B.C. CANTAB.

A GIRL, aged six years, was seized on May 12th, 1897, with a severe attack of scarlet fever. The temperature for the first three days ranged between 103° and 105° F., except when it was temporarily reduced by tepid sponging. The fauces, although considerably swollen, were remarkably free from secretion, the chlorine spray and douche being frequently used. On the fourth day of the rash pain in the left ear was complained of. On the next evening (May 16th) there was slight discharge from the ear. Syringing with boracic acid solution every two hours was ordered. On the 17th there was distinct tenderness over the left mastoid process. The pus came through a large perforation in the membrana tympani and boracic solution used as a nasal douche passed out of the ear. The child was somewhat heavy and drowsy and had passed urine involuntarily during sleep. The temperature continued high. On the 18th Mr. Charles Ballance was asked to see the patient with a view to operation. The tenderness over the mastoid still continued, but there was no œdema or redness of tissues over it. For the next twenty-four hours the ear was syringed every two hours with carbolic lotion 1 in 40 and hot boracic fomentations were applied. On the 9th, at 9.30 P.M., as there was no relief, Mr. Ballance operated. The mastoid antrum was opened in the usual way and pus welled out at the first touch of the gouge. The tympanic cavity itself was carefully avoided. A drainage-tube was inserted and the wound was closed. The child bore the operation very well and the temperature fell a degree. On the 21st the child was becoming lethargic and drowsy. She vomited several times. During the day the temperature varied between 100·8° and 101·8°. On the 22nd drowsiness was increasing, the tongue was furred, and the abdomen was distended. The patient vomited once. The temperature was still high and the pulse was 130, regular, but very weak. On the morning of the 23rd the skin was jaundiced, the conjunctivæ were yellow, and the urine was bile-stained. The abdomen was very distended. Drowsiness was more intense and the child lay perfectly still in a semi-comatose condition. At 10 P.M. the temperature had risen to 103·8°. Mr. Ballance was asked to see the patient and as it was agreed that her condition was due to general septicæmic infection and not to localised intracranial inflammation treatment by anti-streptococcic serum appeared to be the only hope of life. The serum was obtained direct from Mr. Bokenham, who kindly made the first injection of 10 c.c. at 10.30 P.M. On the 24th, a short time after the injection, the child seemed somewhat brighter and took more notice of things. The tongue was cleaner and of a pinkish hue. The temperature fell to 99·8° during the early morning but rose during the day to 103°. 10 c.c. of the serum were injected at 4.30 A.M., 11.15 A.M., and 5.30 P.M., whilst at midnight 20 c.c. were given. 3 minims of solution of strychnia with 2 minims of tincture of digitalis were ordered to be administered hypodermically at the same time as each injection of serum. On the 25th during the night the child had a syncopal attack and the temperature fell to 99°. She was distinctly worse in the morning. 10 c.c. of the serum were injected at 6 A.M. At noon the patient was rapidly losing ground; diarrhœa had set in, the pulse was 140, and the respirations were 40. The tongue was furred and the lips were dry and covered with sordes; the abdomen was more distended. 20 c.c. were injected at 6 P.M. and 20 c.c. again at 9 P.M. When seen by Dr. Sharkey (9.30 P.M.) the child was lying in a drowsy, almost moribund condition. The pulse was very weak (140) and the respirations were 46. The diarrhœa continued, the motions, consisting of undigested food, being very offensive.



The temperature shows very clearly the various complications of the illness. Firstly, the initial fall on the third day of the rash followed immediately by the rapid rise when the left ear became involved. Secondly, the temporary relief from the operation followed again by high fever on May 23rd when the infection became general. Thirdly, the marked improvement when the serum began to get the better of the disease. Fourthly, the rise of temperature due to the other ear becoming implicated. Finally, the fever produced by the glandular inflammation. From June 15th onwards the temperature never rose above normal.

Dr. Sharkey considered the condition to be extremely grave, but advised the continuance of the serum treatment and also ordered sulpho-carbolate of sodium, 3 grains by the mouth every four hours. At midnight 10 c.c. were administered. The patient's condition remained unchanged. On the 26th there was slight improvement. The pulse was less rapid and the respirations were 37. The lips and tongue were less dry. The motions were slightly bile-stained. The urine was free from bile. By midnight during the last twenty-four hours 67 c.c. of the serum had been injected. On the 27th improvement continued. The patient had slept for eight and a half hours; her mental condition was much brighter; the abdomen was less distended and the temperature was lower. The diarrhœa was ceasing, the motions being more natural and less offensive. The child was taking more nourishment. 56 c.c. of the serum had been injected during the twenty-four hours. On the 28th the patient's condition was distinctly better; the temperature had fallen to 99·2°; the pulse was 112, and the respirations were 30. The diarrhœa had ceased. The patient had passed a good night. On examination of the abdomen there was felt in the right lumbar region, below the liver but distinct from it, a rounded deep-seated swelling of the size of a small apple; it was dull on percussion and free from tenderness. At 9 30 A.M. 20 c.c. of the serum were injected. During the morning there had been several attacks of epistaxis and the urine had become bright red. At 1 30 P.M. the whole body was covered with small purpuric spots, the swelling in the abdomen was larger and evidently contained blood, and the child was very restless but otherwise was no worse. She was given by the mouth 5 minims of tincture of hamamelis and 3 minims of liquor strychniæ. On the 29th the general condition was about the same but the purpura was increasing; the whole body was now covered with large subcutaneous bruises, especially where the serum and digitalis had been injected. The injections had not been repeated since the previous morning, 263 c.c. of the serum in all having been used. During the afternoon there had been marked improvement mentally, the child playing with her toys. Calx chlorata (10 grains) was ordered every four hours with plenty of fruit. From May 30th to June 2nd the purpura continued, a large mass formed in the right axilla, and the epistaxis at one time became so excessive as to necessitate plugging of the anterior nares, the child in the meantime becoming blanched and very weak. On the morning of June 3rd the right ear was discharging. There had been a sudden rise of temperature in the night. From June 3rd to 8th the purpura gradually disappeared and the child slowly improved, the temperature keeping nearly normal. From the 9th to the 16th the temperature was again high and there was considerable glandular trouble in the neck. This, however, subsided spontaneously. The urine at the same time contained a large amount of albumin. On the 16th the temperature fell to normal and never again rose and the patient slowly convalesced. The condition now (November, 1897) is satisfactory. The discharge from both ears has ceased. The hearing is normal in the right ear, but she can only hear a watch at about three inches with the left.

Report from Mr. BOKENHAM.—A broth culture of the child's blood was taken just before commencing the serum treatment. Streptococci grew rapidly in the broth. A rabbit was injected with 1 c.c. of the culture. The animal died in forty-eight hours.

Remarks by Mr. BALLANCE.—This case shows what can be done by perseverence and unremitting attention. The opening of the mastoid antrum was undertaken with the view not only of relieving pain and of giving unhindered exit to pent-up pus, but also in the hope of saving the delicate structures of the tympanum from complete destruction. On May 23rd the child's condition was exceedingly grave. The absence of paresis, optic neuritis, and cerebral vomiting negatived the presence of localised or diffused intra-cranial inflammation. Moreover the general septic condition did not seem to depend on infection from the temporal bone which a suitably-planned operation on the lateral sinus and jugular vein might arrest. The high fever, rapid pulse, rapid respiration, jaundice, drowsiness, incontinence of urine, distension of the abdomen, fœtid diarrhœa, and later the hæmorrhages made for the diagnosis of general acute scarlatinal septicæmia. This child would certainly have died if anti-streptococcic serum had not been employed and the injections continued even when fe was ebbing away. The serum steadied the temperature, improved the pulse and respiration, cleared the mind, moistened the tongue, and postponed the fatal issue of the acute stage of the illness which was imminent. In acute septic infection every effort should be made to tide over the acute stage, for the prognosis of chronic septicæmia and pyæmia is good. The hæmorrhages had nothing to do with the serum treatment, but were due to blood changes arising out of the acute septic process. The hæmorrhagic condition was treated by chloride of calcium and with fresh milk and fruit; in fact in the manner which yields the best results in scurvy and scurvy rickets.

Evelyn-gardens, S.W.

NOTE ON "BLACK-WATER" FEVER.[1]

BY STANLEY KELLETT SMITH, F.R.C.S. ENG.
LATE SURGEON TO THE RHODESIA CONCESSIONS EXPEDITION TO CENTRAL AFRICA.

IN every quarter of the globe where it exists malaria presents certain aspects peculiar to the country. In Central Africa, and indeed throughout the whole of tropical Africa, the phase demanding most attention is the bilious hæmoglobinuric or "black-water" fever. This occurs as a rule only in those who have been for some considerable time in the country and who have suffered from repeated attacks of ordinary fever. It seldom or never seizes the new-comer, but it may appear rapidly in previous residents of a malarious district upon return thereto after absence in a healthy climate. Europeans are the chief sufferers, but cases are not rare among the natives. The clinical features of the disease are those of a severe remittent fever. The cold stage is usually well marked; there may be severe retching and bilious vomiting together with diarrhœa; bleeding from the mucous tracts sometimes occurs. Finally, there are the cardinal symptoms referable to the rapid and extensive destruction of the red blood corpuscles characteristic of the disease—viz., quickly developed jaundice, which is hæmatogenous rather than hepatogenous, and the passage of dark, porter-coloured urine containing oxyhæmoglobin, methæmoglobin, and urobilin.

I do not know of the existence of any statistics bearing upon the mortality of this fever. Many patients recover; many die. A good index of its fatality is given by the fear in which "black-water" is held by the white man. It must always be regarded as a very serious illness. Death may ensue from (1) enormous destruction of the red blood cells, when the symptoms are similar to those of profuse hæmorrhage; (2) uræmic poisoning resultant from total suppression of the urine; and (3) interference with some vital cerebral centre owing to blockage of capillaries by masses of malarial parasites or to actual hæmorrhage. As a remote sequence the kidneys may become cirrhotic from the nephritis accompanying and following the disease.

The pathology of "black-water" is as yet an almost virgin field, and the literature thereof is so scant and contradictory as to afford few points of definite argument. A single issue is clouded also by the fact that many observers have reported all cases in which passage of blood in the urine occurred as cases of bilious hæmoglobinuria, although some of these read like descriptions of attacks of ordinary acute nephritis and others have led to a claim of identity between "black-water" fever and the paroxysmal hæmoglobinuria of our own country. This claim is very far from proven, but it is probable that we must come to recognise several distinct conditions, now grouped together under the one head, some of which will support the analogy to paroxysmal hæmoglobinuria, just as we may admit that certain cases of the latter disease have a possible origin in home malaria. An opinion first ventured at the time when "black-water" began to attract serious attention still provides ground for inquiry and speculation. In 1874, 1877, and 1888, Tomaselli published cases occurring in Catania, in people who had suffered from repeated malarial attacks, which presented clinical features

[1] Read before the Liverpool Medical Institution on Feb. 17th, 1898.

exactly parallel to those of "black-water" fever. Tomaselli, however, attributed these then comparatively strange symptoms to the large quantities of quinine which had been taken for a long time for the cure of the malaria. Similar observations were reported later by Karamitzos, Pampoukis, Spyridon Canellis, and Pasquale Muscato, who inclined to the same explanation.

Putting aside discussion of the true nature of these cases, they may be cited as emphasising the lack of full evidence as to the relation between quinine and the red blood cell. Clinically it is true that the judicious employment of the drug in ordinary paludism is very safe. My own experience in Central Africa was that men in very hard circumstances of food and travel, frequently under its full influence and for extended periods under the continuous influence of small prophylactic doses, showed no disquieting signs and escaped "black-water" fever. I do not for one moment believe that quinine is capable of originating the train of symptoms characteristic of "black-water" fever, but experimental evidence may be taken as bearing upon the employment of the drug during the actual progress of that disease. (1) In extreme dilution—1 in 50,000—quinine paralyses the protoplasm of certain low organisms; 1 in 20,000 stops the intrinsic movements of the colourless blood cells and stronger solutions lead to their disintegration. Baccelli estimated that fifteen grains of the alkaloid in the blood means a dilution of 1 in 5000 and is quite sufficient to kill the malarial plasmodium in certain stages of its life and to profoundly modify the activity of the white cell. What the effect is upon the circulating red cell free from a parasite remains to be accurately shown. Lepine, following this line, states as a result of several experiments that the administration of large doses of quinine in the dog and sheep resulted in the destruction of great numbers of the red cells, and that hæmoglobinuria may result if the animal be out of condition at the time of the experiment. (2) Quinine excretion is carried out almost entirely (90 per cent. or more) by the kidneys, and in the process thereof these organs become acutely hyperæmic and are evidently irritated by the passage of the drug.

Now, whatever be the pathology of "black-water" fever it is certain that there occurs an enormous destruction of the red cells, and that there arises great irritation of the kidneys from the excretion of toxic products. The first is self-evident; in two cases reported by Boison the blood count fell respectively from 1,700,000 to 670,000, and from 2,400,000 to 1,600,000 in twenty-four hours; the second is shown not only by clinical signs, but also by post-mortem examinations. Theoretically, then, quinine is contra-indicated in "black-water" and, as a matter of fact, experience shows that its employment in the earlier stages of the disease, when the fever is still active and the chief clinical sign yet marked, is not attended by very effectual results. This has been hitherto explained upon the ground that "black-water" fever is not a pure malaria, that it is a separate infection, or that it is malaria plus a separate infection. Taking the opposing view—viz., that "black-water" fever is acute malaria pure and simple—is it not reasonable to suppose that the failure of the quinine is due to its aggressive action upon the malarial parasite being cloaked, in a system the equipoise of which is so seriously disturbed and in which the red cell has possibly lost some of its powers of resistance, by its own chemical effects upon the blood and the excretory organs?

The necessity of assuming the presence of some infection apart and distinct from the malarial organism has been gradually discounted, although in the absence of any extended bacteriological research the existence of such cannot be absolutely negatived. "Black-water" fever gives impression to the traveller as being indissolubly bound up with the malarial process, and the more intense that process in any particular district or at any particular season the more frequent is the "black-water" complication. Its geographical distribution is of much interest. It occurs only in malarious countries and attracts most attention in tropical Africa and the islands adjacent, the West Indies, Central, and the Southern parts of Northern America. Every malarious country, however, does not of necessity show much "black-water." The great and striking example is India, where the cases are so very rare that many people engaged in commerce and in the civil and military services in different parts of the continent, with life-long experience of the Indian fevers, have never even heard of the "black-water" fever and fail to recognise its clinical description from any instance in their knowledge. Arguing from this, Manson says: "Considering the peculiar clinical manifestations it gives rise to and the facts of geographical distribution, I think it very likely that the parasite of malarial hæmoglobinuric fever is specifically different from the malaria parasites usually met with in Europe and perhaps in India." A perfectly fair suggestion, but one which opens up a vista of numerous "breeds" of the malarial plasmodium—a breed for each frequent and distinct complication, a breed for the malarial hæmatemesis of Laurenço-Marques, a breed for the curious anterior tibial paralysis of Likoma, and so on. Boison, in the report of by far the most exhaustive necropsy of the disease published—a case occurring in a soldier invalided from Madagascar—says: "The malarial parasite was present in extraordinary numbers, free and associated with red blood corpuscles, seven out of ten red blood containing it." Unfortunately no identification of the particular parasite in this instance with the ordinary malarial parasite of Madagascar is given. Valuable information regarding the organism of "black-water" may accrue from the further investigation of the widely distributed "cattle malaria," which is so far akin to the human malaria that it is "caused by an endocorpuscular parasite, develops only in malarial neighbourhoods and seasons, is most favourably influenced by quinine," and in its worst and most fatal form is accompanied by the passage of bloody urine.

To sum up, one may venture the following conclusions: That "black-water" fever is distinctly malarial in nature; that there is no evidence of any specific difference between its parasite and the ordinary malarial parasites of the country in which it occurs; that its parasite exists in great numbers in the blood of an infected person; that enormous destruction of the red cells takes place by habitation of the parasites and possibly also by direct action of toxins produced by them; that the derivatives of the colour-plasma of the destroyed cells become dissolved in the blood, its serum showing the presence of oxyhæmoglobin, hæmatin, and urobilin (Boison); that the liver and spleen, from the circumstances of a present attack and from the effects of previous malarias, are unable to manipulate these derivatives; that they are therefore excreted by the kidneys, which in the process may become so inflamed as to show actual hæmorrhages—a result favoured by the cachexia of the white man dwelling in a malarious country. So much for a description which rests partly on speculative grounds. What is a certainty is that this disease, so little understood, is carrying off scores of our best men in Africa, is responsible for the deaths of many of the most intrepid of our pioneers, is checking the advance of civilisation in great tracts of country otherwise well suited for the white man; and it would be well were those in authority and who have the power to give independent stimulation and help towards the elucidation of the pathology and treatment of this "black-water" fever.

Liverpool.

A CASE SHOWING SOME OF THE FEATURES OF ERYTHRO-MELALGIA AND OF RAYNAUD'S DISEASE.

BY H. D. ROLLESTON, M.D. CANTAB., F.R.C.P. LOND.,
SENIOR ASSISTANT PHYSICIAN TO ST. GEORGE'S HOSPITAL AND TO THE VICTORIA HOSPITAL FOR CHILDREN.

THE following case is allied both to Raynaud's disease and to the rarer or at least less generally recognised condition of erythro-melalgia. Erythro-melalgia was the name suggested as long ago as 1878 by Weir Mitchell[1] for a red and painful condition, or, as he afterwards called it, red neuralgia, of the extremities, of which he collected sixteen examples, chiefly in the feet. The condition may be thought to be a peripheral neuritis affecting the vaso-motor nerves and so to be closely allied to other angio-neuroses, such as angio-neurotic œdema and Raynaud's disease.

A male, aged twenty-nine years, formerly a miner and at one time a seafaring man, came to my out-patient room and was subsequently admitted under my care at St. George's

[1] American Journal of the Medical Sciences, 1878, vol. lxxvi.

Hospital on Dec. 20th, 1897. He complained of loss of energy which had troubled him for twelve months, but in addition to this his hands and feet were so painful that he was unable to do his work, that of an excavator, and had given it up since July, 1897. He had become much more susceptible to cold for the past year and had noticed that during this time his hands and feet had swollen when exposed to cold, especially when in a dependent position. Holding his hands up afforded him distinct relief. On exposure his hands became cold, both subjectively and objectively, and persons shaking hands with him had, he said, complained of this. His hands went dead and at the same time swelled and throbbed. They were worse in cold weather, but were not free from pain and swelling in the summer; in addition to the deadness and pain he had considerable tenderness, so that he was unable to bear the pressure entailed in walking. This was felt especially in the little toes. During cold weather or exposure the symptoms were continuous and constant, but they became slighter and tended to disappear if he was kept warm. No history of hæmaglobinuria or hæmaturia could be obtained and during his stay in the hospital his urine was quite natural. Four years ago his right ear became frost-bitten. There was no history of ague and no history of any symptoms like angina pectoris. He had had syphilis seven years ago. No details of his family history could be provided by the patient. On admission he was found to be a burly man with a pimply face and a good deal of eczema from exposure to wind, rain, &c. His aspect suggested alcoholism, but he professed teetotalism. His nose was somewhat tender and sometimes painful, and there was a general resemblance between the redness of the skin on the various exposed parts of the body. There was a small chilblain on the right ear. There was no facial resemblance either to acromegaly or to myxœdema and no enlargement of the cranium. The hands were red and puffy but were not definitely œdematous. The skin was hypersensitive and this condition was aggravated if his hands were held in a dependent position. The skin was permanently red but this was less marked when they were kept warm. There was also marked tenderness of the muscles of the hands and comparatively slight pressure appeared to give rise to considerable pain. The hands were enlarged and were not unlike those seen in acromegaly, but as already mentioned there was no evidence of this in the head. There was no manifest bony enlargement. A peculiar feature was the bulbous condition of the terminal phalanges with some over-curving of the nails. The nails themselves were otherwise normal. There was no sign of scleroderma.[2] There was no muscular tenderness in the forearms or arms but he complained of some pain in the elbows and shoulders. The temperature of the hands taken at the same time as that in the axilla was always a degree or a degree and a half lower than the axillary reading. The feet were broad and of large size, the toes being thick and clubbed and the skin hyperæsthetic and red. The muscles of the feet were tender on pressure. This rendered walking or standing painful. There was, however, no tenderness of the muscles of the calves. There was an old scar on the dorsum of the right foot due to a burn. The knee-jerks were exaggerated and there was no ankle clonus. The knees and legs were slightly tender. The tongue was not specially large; his teeth were few in number, which was, he explained, due to their having been knocked out in fights; what there were were bad. Digestion was good. There was a good deal of constipation. The lungs and heart were normal. There was no evidence of enlargement of the thyroid or thymus glands. The abdomen was natural and no enlarged glands could be felt in any part of the body. Vision was fairly good, though muscæ volitantes not infrequently troubled him. There was no hemianopsia. The fundi appeared to be normal. The specific gravity of the urine was 1024, no sugar and no albumin. The pulse was 60, of normal tension. There was no arterial thickening. The patient was kept in bed protected from the cold and given tabellæ trinitrini three times daily; some rheumatic pains were treated with salicylate of soda, and as a result of warmth the subjective condition of his hands and feet very greatly improved. He left the hospital and went to a convalescent home.

Illustration showing the bulbous condition of the thumbs and to a lesser extent of the fingers.

Remarks.—This case has affinities with, and at the same time differs from, both Raynaud's disease and erythro-melalgia. It resembles Raynaud's disease in being aggravated by cold, whereas erythro-melalgia is made worse by heat and relieved by cold. It resembles erythro-melalgia in the hypersensitiveness and redness of the skin of the extremities, while in Raynaud's disease the parts become pale and anæsthetic and analgesic although they may be painful. The frostbite four years before and the chilblain on the ear connect the case with Raynaud's disease. Prentiss,[3] in an elaborate discussion of two cases of erythro-melalgia, says that of 27 cases of that disease 25 were males, whereas four-fifths of the cases of Raynaud's disease were in females. The bulbous condition of the fingers and toes is worthy of note and is not explained by any cardiac or pulmonary lesion. It may perhaps be regarded as the result of impaired nutrition due to peripheral circulatory disturbance of neurotic origin. There is certainly no reason to think it is due to the absorption of poisons from any other part of the body, as has been suggested, and is probably the case in Marie's hypertrophic pulmonary osteo-arthropathy. The condition of clubbing of the fingers is not recognised either in Raynaud's disease or erythro-melalgia, but it is interesting to note that Dr. Wardrop Griffiths,[4] in a paper on three cases illustrating some of the affinities of Raynaud's disease, noticed that in his first case the thumbs were slightly bulbous at the extremities. It is an interesting though perhaps far-fetched speculation whether the muscular fatigue of which the patient complained was due to the spasm of the muscular arterioles and therefore somewhat analogous to intermittent claudication in horses. In this condition muscular inability and spasm result on exertion and are found to depend on vascular occlusion. In the present case there was no mention of any muscular spasm, but from a consideration of Allan Burns's[5] original remarks and general physiological knowledge it does not appear necessary that muscular anæmia should cause anything beyond paresis.

This case would perhaps be sufficiently described as an irregular or atypical case of Raynaud's disease and some of Weir Mitchell's[6] cases of erythro-melalgia are considered by Osler[7] to belong to Raynaud's disease. The hypersensitiveness of the skin and the muscular tenderness, however, fully justify its being considered atypical and ally it

[2] Compare Hutchinson's Archives of Clinical Surgery, vol. ii., p. 30 et seq., where cases of scleroderma showing alliance to Raynaud's disease are recorded.

[3] Transactions of the Association of American Physicians, vol. xii., p. 310, with bibliographical references.

[4] Medical Chronicle, vol. xv., 1891-92, p. 89.

[5] Quoted by Osler: Angina Pectoris and Allied States, p. 116, 1897.

[6] American Journal of the Medical Sciences.

[7] Practice of Medicine, second edition, p. 1016.

with erythro-melalgia. It belongs to the group of angio-neurotic affections, the pathology of which is, it must be confessed, somewhat vague, and which probably also includes such conditions as intermittent claudication and scleroderma. Whether the primary change is always central as in the cord or peripheral in the nerve filaments and their endings there is no very positive evidence to show. Possibly it may in different cases be due to either or both. It has been thought to be a symptom of various lesions of the cerebro-spinal system, and lately Pospeloff[8] has published a case in which it probably depended on syringomyelia. For the illustration which accompanies this article I am indebted to Mr. H. G. Drake Brockman, a senior student of St. George's Hospital.

Harley-street, W.

ADENOID VEGETATIONS AND LARYNGEAL STRIDOR.

BY EUSTACE SMITH, M.D., F.R.C.P. LOND.,

PHYSICIAN TO THE EAST LONDON HOSPITAL FOR CHILDREN AND TO THE CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST.

SOME time ago when discussing the subject of adenoid vegetations in young children I ventured to express the opinion that laryngeal stridor, like many other nervous phenomena in early life, was sometimes due to the irritation of adenoid growths and might be successfully treated by their removal. Some exception was taken to this statement, but unfortunately my notes were too scanty to enable me to bring forward substantial evidence that this could be the case. It is then with no little satisfaction that I am able to quote an instance in which congenital crowing of a marked type ceased within a few days of the removal of the post-nasal growths. The following account of the case is compiled from the careful notes of my house physician, Dr. A. S. Dick.

An infant, aged one month, was admitted for laryngeal stridor into the East London Hospital for Children in the beginning of July, 1897. It was stated that the breathing had been noisy from birth and that at times the crowing was so loud and the breathing so laboured and distressed as to raise fears for the child's life. The infant was a sturdy, healthy-looking boy. His complexion was normal and he seemed to be little troubled by an inspiratory crow which could be heard at a distance from his cot of half the length of a long ward. At times, however, especially after a meal or during the night, the breathing would become excessively loud and stridulous. In these attacks the face grew livid, the chest-wall was drawn in deeply, and the child showed every mark of suffering from want of air. After a time, varying from twenty minutes to an hour, the dyspnœa gradually subsided and the child returned to his ordinary state—crowing loudly with each breath but giving no sign of discomfort. Still, even in these intervals of comparatively quiet breathing there was marked recession of the lower ribs and epigastrium and all the intercostal spaces were drawn in. The stridor was a long-drawn croak which was loud in inspiration and less loud, although distinct, when the breath was expelled. It never ceased even during sleep. At times the child coughed, but the cough had no barking laryngeal quality and the cry was natural and clear. Examination of the chest showed that the respiratory murmur was equal on the two sides. A few scattered rhonchi were noticed. During the suffocative attacks the lividity and distress were so great that it was thought advisable to keep instruments always ready at hand for the operation of tracheotomy. The temperature was normal throughout and remained quite unaffected by the attacks of dyspnœa. Digital examination of the throat discovered a number of vegetations of small size in the naso-pharynx. No attempt was made at this time to remove the growths, but a 2 per cent. solution of resorcin was injected into the nostrils twice a day to control any post-nasal catarrh. The crowing, however, was not lessened by this treatment although the cough ceased, and after a few weeks the mother was told to remove the child but to bring him back to the hospital if the symptom did not improve.

On Sept. 30th the child was again taken to the hospital on account of a suffocative attack of exceptional severity which had occurred on the previous night. The infant was now three months old, but his general condition was less satisfactory than before. He was soft and flabby and was said not to care for his food. He breathed as noisily as ever and coughed, but he was not hoarse. Some rhonchus was found on both sides of his chest. The child was put into a steam tent and the resorcin solution was used to the nose; but the suffocative attacks continued with unabated severity and the croaking breathing was in no way altered by the treatment. On Oct. 5th, as no improvement had occurred, the adenoid growths were scraped away under chloroform by the resident medical officer, Dr. R. P. Cockburn, and it was noticed that while the influence of the anæsthetic lasted the crowing ceased and the breathing was perfectly quiet and natural. A day or two after the operation the throat was examined by Dr. C. H. MacIlraith, who reported as follows: "On passing the index finger of the left hand into the child's mouth over the base of the tongue, pressing the hyoid bone forwards and then introducing a small laryngeal mirror, the following appearances were noted. The epiglottis was sharply folded on itself so as to bring the posterior lateral surfaces into almost complete apposition. It was pale in colour and somewhat thicker than usual. Throughout the examination the ary-epiglottic folds were held tense. They were thinned and shortened, thus approximating the arytenoid cartilages and narrowing the upper aperture of the larynx. The vocal cords were not visible; but by using a laryngeal probe with half-an-inch at the extremity bent at a right angle in the transverse plane to the rest of the instrument and pressing with the bent end upon the raphé of the epiglottis a small portion of the posterior ends of the vocal cords could be seen. They were clear, pearly white, and apparently healthy." The patient rapidly recovered from the effects of the operation and on Oct. 12th it was noted that the stridor and chest recession had very distinctly diminished and that no suffocative attacks had occurred since the operation. On the 17th the stridor had still further declined and on the 19th it had quite ceased to be noticeable in ordinary breathing and could only be detected in deep inspirations when the child was crying. On the 21st he was discharged as cured. I saw the child once afterwards towards the end of the year. He had caught cold and there was some return of the stridor. The mother reported that unless the child had a cold the breathing was noiseless, that there had been no return of the suffocative attacks, and that the infant never seemed to suffer in any way from want of breath. During January, 1898, the child was taken to the hospital for a nævus. Mr. Elwin, the house surgeon, reported that the breathing was then perfectly quiet and natural.

In this interesting case the connexion between the respiratory croak and the state of the pharynx hardly admits of doubt. For three months the stridor had persisted day and night without improvement; indeed, the attacks of acute dyspnœa instead of growing milder had become more severe and distressing. Ordinary measures of relief had met with no success. Then the adenoids were removed and a change was apparent at once. The night attacks ceased to occur and the child slept undisturbed. In a few days the croaking had begun to be less noisy; in a fortnight it could not be heard in ordinary breathing; in another two days it could not be heard at all and the child was dismissed as cured. The case was not one of congenital malformation such as has been described by Dr. Lees, for the larynx was of normal size and development. Nor can the croaking be attributed to any laxness or flabbiness of tissue, as suggested by Dr. Sutherland and Dr. Lambert Lack, for Dr. MacIlraith noted that the ary-epiglottic folds were held tense during the whole of the laryngoscopic examination. Moreover, the fact that the stridor ceased while the patient was under the influence of the anæsthetic points very decidedly to spasm as a cause of the croaking. Dr. John Thomson has argued in favour of respiratory spasm being common in these cases and attributes it to imperfect coördination of the respiratory muscles. For myself I was inclined at one time to accept Dr. Robertson's explanation that the trouble lay in a posticus paralysis consequent upon a depraved innervation of those muscles from over-stimulation of the accessory nucleus, but the present instance has convinced me that paralysis of muscle is not a necessary element in the derangement. It is quite possible that the mechanism of the noise may be different in different cases. In the

[8] Abstract in La Presse Médicale, Nov. 10th, 1897, p. 294.

subject of this note I attribute the stridor to a spasmodic contraction of the ary-epiglottic folds and believe that this was due to irritation set up by the adenoids in the naso-pharynx. I think it probable from this and other examples of the affection which have come under my notice that adenoid vegetations and the post-nasal catarrh which almost invariably accompanies them may be a cause of many of the cases of congenital croaking, as they are, undoubtedly, of many of the cases of laryngismus stridulus. That the number and size of the adenoids present in any particular case are insignificant ought not, in my judgment, to tell against this view. It is a common observation in the case of older children that the degree of distress and general interference with nutrition caused by the vegetations is often great out of all proportion to the actual amount of adenoid hypertrophy. The reason of this I believe to be that the nervous irritation is not uncommonly the consequence not so much of the growths themselves as of the post-nasal catarrh, which rarely fails to be joined with them sooner or later; at any rate, by reducing the catarrh I have often succeeded in putting a stop to signs of nervous distress, although the adenoid overgrowth itself was in no way interfered with by the treatment. In the present case, however, treatment of the post-nasal catarrh did not affect the crowing, which only ceased after the post-nasal vegetations had been scraped away.

Queen Anne-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF PUERPERAL FEVER TREATED WITH ANTI-STREPTOCOCCIC SERUM.

BY EDWARD KERSHAW, L.R.C.P., L.R.C.S. EDIN.

THE patient was a primipara, twenty-six years of age, who had a normal labour on Oct. 29th, 1897. She suffered from chronic bronchitis, which was much worse immediately subsequently to her delivery. She was partially attended by a pseudo-midwife, in whose practice there had two weeks previously occurred a fatal case of puerperal fever accompanied by acute metritis and pelvic peritonitis. On Nov. 11th the patient's temperature was 102·6° F. She was perspiring profusely, her respiration was hurried, and she had no appetite, but she was free from cough or pain. The lochia were without fœtor and had nearly ceased. The uterus was washed out. On the morning of the 12th her temperature was 102·8° and her tongue was becoming brown and dry. The first injection of serum was given. In the evening her temperature was 103·8°, her tongue was now more moist, and she suffered from diarrhœa; she had taken a quart of milk during the day. On the 13th the temperature in the morning was 103·2°; she had had a fairly good night, but the diarrhœa still continued; the appearance of the tongue was improving. The second injection of serum was given. The temperature in the evening was 104°; a quart of milk had been taken during the day. On the morning of the 14th the temperature was 103·2°; she had had a fairly good night, but the diarrhœa and sweating still continued. In the evening the temperature was 105°. The respirations were about 60 per minute, the pulse was rapid and fluttering, both the sweating and the diarrhœa were much worse, the bowels having acted six times since the morning, and the patient appeared to be sinking. A third injection of serum was given and brandy was ordered. On the 15th the temperature in the morning was 101·6°, she had had a comfortable night, and the sweating and diarrhœa had ceased. In the evening the temperature was 100·2°. During the day she had taken a quart of milk with brandy. On the 16th the temperature in the morning was 97·8° and convalescence had now set in.

It is to be observed that from beginning to end there were no local symptoms. The patient's general condition improved after each dose and when the remedy was withheld from the morning to the evening of Nov. 14th the case went rapidly worse, but after the third dose the cure was evidently complete. The serum used was Pasteur's anti-streptococcic. The first two doses had been lying in the surgery of a neighbouring medical man since February, 1897, and the third one had been in the possession of another friend since about August, 1896.

Oldham.

PLUGGING OF TRACHEA BY A CASEOUS GLAND.

BY GEORGE F. LONGBOTHAM, M.B., C.M. EDIN.

A BOY, about eight years of age, in a semi-conscious, cyanosed condition, evidently suffering from some obstruction of his respiration, was admitted into the North Riding Infirmary, Middlesbrough, about noon on Sept. 8th, 1895. The history of the case was that he "had been all right" until about 10 A.M. that day, when suddenly he seemed "to be awful with his breathing" and complained of pain in the chest. He had been coughing up at intervals what his mother described as "small pieces of apple"; she did not think that he had "got anything down the wrong way." Chloroform was administered and seemed to give some relief, which, however, was only temporary. Intubation with a catheter did not benefit the symptoms, but evidently indicated some obstruction a considerable way down the windpipe. Tracheotomy was then performed, but before its completion the child had stopped breathing. Aspiration with a long indiarubber tube was tried, but yielded no good result. A long tube was then passed down for the purpose of irritating the mucous membrane of the trachea and bronchi, whereupon the child gave a deep inspiration and again ceased breathing. The heart beats were now becoming smaller and much more rapid, but artificial respiration, the galvanic battery, and this catheterisation were nevertheless continued. Suddenly some cheesy-looking matter of about half the size of a hazel nut was coughed up, after which the child began to breathe freely and made an uninterrupted recovery, although on more than one subsequent occasion a little of this cheesy matter was coughed up. This cheesy matter on being examined through the microscope in section and stained proved to be part of a caseous bronchial gland which had evidently ulcerated its way into the trachea about the bifurcation. The patient was under the care of Dr. Bateman, to whom I am indebted for permission to publish these details. It becomes a question whether in cases of cessation of the respiration under chloroform stimulation of the mucous membrane of the trachea and bronchi by means of a tube might not be of great value.

Middlesbrough, Yorks.

COAL-GAS POISONING FOLLOWED BY SYMPTOMS SIMULATING RABIES.

BY A. IRWIN BOLTON, B.A., M.B. DUB.

ON Jan. 31st last, at midday, I was called in all haste to visit a young Frenchman, aged twenty-two years, who was "near, if not quite, dead," so the message ran. I could get no further information until I arrived at the patient's house after about half an hour's hard driving. Upon entering the patient's room—a space about 12 ft. × 7 ft. × 10 ft. on the ground floor and with windows opening on to the plain on both sides—I found him lying in bed apparently dead. There were no heart beat, no pulse, and no respiratory movements. The pupils were dilated to the full. The body was warm. The face, lips, and ears were blue. The patient was foaming from the mouth. There was complete trismus. On inquiry as to the cause of his state I found that he had lighted his fire when going to bed the evening before and shutting his door he immediately fell asleep. His fire-grate was piled with coal (Cardiff). There was a gale of wind all night and the strong wind prevented the exit of smoke and drove it back into his room and asphyxiated him in his sleep. The diagnosis being clear I immediately threw open all the windows and door and placed my patient in the current and set to work at artificial respiration. I applied mustard plasters to the extremities and over the heart and gave an enema of brandy and subcutaneous injection of ether. After I had used these means for about forty minutes I was gratified to find the circulation becoming restored and the patient

showing signs of returning consciousness. Hot-water bottles were then applied all round his body and he was covered with blankets. I ordered him a mixture of ammonia with digitalis and at 2.30 P.M. I left him apparently comfortable. At 4 P.M. I again visited him and found a different state of things. He then presented all the symptoms of a man suffering from hydrophobia. Frequent violent spasms recurred about every five minutes and were preceded by most painful symptoms of fear. The patient foamed from the closed mouth. The trismus was continuous all through, even during the intervals between the spasms. He thumped his sides and body violently with his hands. The sight of water or sound of it was the cause of instant spasms. Also blowing over him had the same effect. I now inquired if he had any wound or cut about him. "Oh, no, sir," said his friend, "only he has a small bite on the calf of the left leg which he received about eight days since from his own dog." This made me fear a regular attack of rabies. He continued to get worse at every attack and it required three strong men to hold him in bed. Opisthotonos was now manifest and he had seminal emissions. He could take nothing by the mouth and his case seemed to me to be very hopeless unless I could control the terrible fits. Accordingly I ordered an enema containing six grammes (one and a half drachms) of chloral hydrate with six grammes of bromide of potassium in infusion of valerian to be administered and to be repeated every hour until the patient became easy. Suffice it to say that the first enema sent him to sleep at 7 P.M. and he slept until seven o'clock the next morning, and when he awoke he demanded his coffee and was quite himself. Since then he has remained quite well. The dog has shown no signs of rabies.

I do not consider that this man was poisoned with rabies, but his symptoms exactly resembled those of that disease. I have very lately had two fatal cases of rabies under my care and the symptoms in all three cases were exactly similar. Convulsions and spasms I have often seen after carbonic oxide poisoning, but not those dreadful fits accompanied with the fear of water and wind. The trismus in this case was the first symptom and it was continuous during the whole time of his attack. This sign has been especially noticed by some writers as occurring in coal-gas poisoning.

Constanta, Roumania.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

KING'S COLLEGE HOSPITAL.

A CASE OF HOUR-GLASS CONTRACTION OF THE STOMACH; OPERATION; RECOVERY.

(Under the care of Mr. WATSON CHEYNE.)

WE must congratulate Dr. Burney Yeo and Mr. Watson Cheyne on the accuracy with which they diagnosed the hour-glass condition of the stomach. It is not very unusual to met with it at a necropsy,[1] but it is certainly rarely that it can be diagnosed clinically. We agree with Mr. Cheyne that the Heineke-Mikulicz operation which he performed was without doubt the most suitable under the circumstances. As more than three and a half months have elapsed since the operation the hope that the patient is permanently relieved seems fully justified.

A married woman, aged forty-six years, was admitted to King's College Hospital on Nov. 8th, 1897. The family history was unimportant. In December, 1881, the patient began to suffer with great pain in the hypochondriac region and in the right shoulder and, in fact, with all the symptoms of ulcer of the stomach with the exception that she had at that time no hæmorrhage. She was treated for this condition by diet and in various other ways and had suffered from symptoms off and on since that time. Sometimes she would be pretty well for some months and then without any apparent cause the whole trouble would return again with all the characteristic symptoms. She had been abroad and consulted medical men in various countries. Lately the symptoms had been those of obstruction rather than ulceration and the diagnosis of pyloric obstruction had been made by several physicians. The patient was very considerably emaciated and was in a feeble state of health. She did not so much complain of pain in the hypochondriac region as of what she termed "an uncomfortable feeling," a feeling of distension and flatulence, and frequent vomiting. She did not vomit every day (the vomiting occurred about every second or third day), nor did she bring up anything like the whole quantity which she took. She had of late been living entirely on fluid diet and only a portion of the fluid taken was brought back again after one or two days. The amount that she would bring back after a couple of days was from 16 oz. to 30 oz.; the longest time that she had gone lately without vomiting was three days. Her weight on admission was 7 st. 4½ lb. On examination the stomach was not very markedly dilated and the dilatation was not uniform; it seemed to be specially marked about the cardiac end and to a less extent towards the pyloric end, but there was not the greatly distended stomach which is usual in cases of pyloric obstruction. On listening with a stethoscope over the middle of the stomach region a gurgling could be heard from time to time as if fluid were running through a narrow orifice and Dr. Burney Yeo, who saw the patient in consultation, stated that in his opinion the case was one of hour-glass contraction of the stomach, resulting no doubt from an old ulcer. On Dec. 1st a vertical incision was made over the stomach, in the middle line about four inches in length, and when the peritoneal cavity was opened the stomach was drawn out of the wound; it was then found, as had been expected, that just about the centre of the stomach there was an hour-glass contraction. The stomach, especially towards the cardiac end, was very considerably dilated and there was also some dilatation towards the pyloric end. The contraction was very marked and when it was laid open it was found that the communication between the two portions of the stomach was extremely small; as a matter of fact, a crow quill could hardly have passed through. There was a good deal of scarring and cicatricial tissue in the neighbourhood and at the actual point of the contraction there was no mucous membrane at all. An incision was made through this contracted portion in the line of the stomach so that the ring of cicatricial tissue was divided transversely; this incision was extended into the healthy parts of the stomach for about one and a half inches on each side, and then the angles of the incision were brought together and the rest of the part was sewn up—first with a few stitches which went through the whole coats of the stomach and then with a row of Lembert's sutures; in fact, the operation performed was identical with that employed in cases of contracted pylorus under the name of pyloroplasty. After the operation was concluded an opening was left between the two portions of the stomach which could readily take a couple of fingers. The wound was then stitched up and the patient was put back to bed; she was not very collapsed after the operation. The wound healed by first intention and the patient went on very well. There was no sickness after the chloroform, she took food by the mouth, milk and beef-tea, &c., but for several days the chief feeding was rectal. On the fifth day she was fed entirely by the mouth; no sickness occurred until twenty-eight days after the operation, when she had one attack of vomiting apparently associated with eating an orange. As regards her diet, after about a fortnight she was allowed to have solid food. On Dec. 14th, for example, her dinner consisted of fish and bread, her tea of a cup of tea and bread and butter; on the following day she had fish; on the 17th she had chicken, and so on. The patient was discharged on Jan. 7th, having gained 8 lb. since her admission, and she stated that she felt better than she had felt for many years; this improvement still continues; she has been sick once since she left the hospital and that also she attributed to an error in diet. She is still somewhat troubled with flatulence, but beyond that her condition is practically normal. She still continues to gain weight.

Remarks by Mr. WATSON CHEYNE.—The interest of the case lies first in the diagnosis—viz., that instead of being a pyloric obstruction as had been supposed by other physicians

[1] La Médicine Moderne, Jan. 16t , 1896.

it turned out to be a typical hour-glass contraction of the stomach. The diagnosis chiefly depended on the absence of the marked dilatation of the stomach which would occur in pyloric constriction and in the bubbling of the fluid through a narrow orifice which was heard, not in the situation of the pylorus, but about the centre of the stomach. The further point of interest is in the treatment. One was very much tempted to excise the contracted portion of the stomach altogether and to stitch the walls together on each side and no doubt that would have been followed by complete recovery without any risk of recurrence of the contraction, for of course it must be admitted that there may possibly be an increased contraction still and some recurrence of the symptoms, but the patient was in an extremely feeble condition and it did not seem justifiable to subject her to the prolonged operation which would have been involved in this procedure, nor was I quite sure that the circulation in the stomach after complete bisection would have been quite satisfactory. On the other hand, the operation performed answered all expectations and the fact that the symptoms have now been absent for several months and that she is able to take solid food without any trouble leads me to hope that the result will be a permanent success.

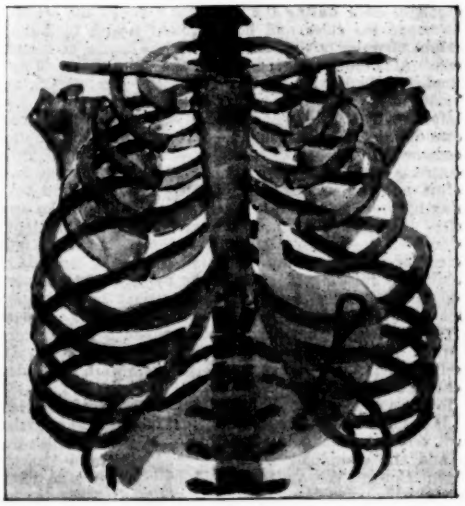
KENSINGTON INFIRMARY.

A CASE OF GASTROTOMY FOR REMOVAL OF A FOREIGN BODY.

(Under the care of Dr. H. PERCY POTTER.)

THE necessity for gastrotomy for the removal of a foreign body from the stomach can only arise in cases in which the body is unable or unlikely to pass through the pylorus. Probably the most frequent foreign body is a coin and in the majority of instances it has no difficulty in leaving the stomach; but in the case of a long thin body the chance of getting through the pylorus is very small and the object is either retained indefinitely in the stomach or finds its way, after causing ulceration, through the walls of the stomach, as in a case we have recorded lately which was under the care of Mr. Morgan at Charing-cross Hospital.[1] In the case of such a body it is very necessary that an operation should be performed as early as possible. In all these cases, however, the evidence of the presence of the foreign body is not very satisfactory and until the introduction of the Roentgen rays no method existed by which the surgeon could assure himself that a foreign body was really present, so that he often hesitated to operate when an operation was very desirable.

A well-nourished woman, aged thirty years, was admitted to the Kensington Infirmary on Jan. 13th stating that she had intentionally forced a button-hook about four inches long down her throat. She was quiet and reserved and gave every detail of the act in a rational manner, so her statement was believed. The hook could neither be seen nor felt. A bougie was without difficulty passed into the stomach. She was kept under observation till 8 P.M. and then taken to Dr. Low, who produced by the Roentgen rays three unmistakeable negatives of the foreign body *in situ*. It lay in the epigastrium on the left of the middle line, the hook portion pointing downwards and inwards about an inch outside the first lumbar vertebra. On the morning of the 14th a median vertical incision three and a half inches long was made between the xiphoid cartilage and umbilicus, opening the peritoneal cavity. Upon introducing two fingers to the left the loop of the button-hook was found deeply situated; the hook portion was manipulated towards the plane of the abdominal incision, steadied between the thumb and finger, cut down upon, and removed.[2] The mucous membrane was united by a continuous silk suture, the mucous and serous coats by Lembert's suture, and the parietal incision by interrupted silk and silkworm-gut stitches. The wound was then dressed with blue gauze steeped in perchloride and was covered with a many-tailed (or domett) bandage. The operation was practically bloodless and no sponges were introduced into the abdomen. An hour after the operation the patient vomited blood-stained fluid; in the afternoon, during the intervals of sleep, she complained of pain which was relieved by an injection of morphia. A nutrient enema of peptonised milk was given in the evening and repeated every four hours. Ten drops of laudanum in hot water were given by the mouth at 9 P.M. On the 16th the wound was dressed; the epigastrium was slightly distended; there was no pain. A lemon was sucked to allay thirst. Two teaspoonfuls of peptonised milk were taken every hour; this quantity was gradually increased till the 24th when the



patient had an egg with bread and butter and enjoyed some "beef-cacao." On the 25th the sutures were removed and she was allowed fish on the 27th. The wound was completely healed on the 29th and the patient got up on Feb. 4th convalescent. There was absence of fever and complication of any kind throughout the case.

Remarks by Dr. POTTER.—The operation of gastrotomy has frequently been performed for the removal of a foreign body from the stomach and provided these cases are taken in hand early the results are favourable. It must be difficult in most cases to determine with accuracy by external manipulation the site or even the presence of a foreign body which has been swallowed, but by the use of the Roentgen rays there is a new light thrown upon these cases and a decisive verdict given in respect of the necessity for an operation. The difficulty of obtaining good photographic results consists in the thickness of the abdominal walls and contents and the movements of respiration and likewise of the stomach itself. The accompanying illustration is reproduced from a drawing of the skiagram, which is somewhat indistinct and blurred, but sufficiently definite to determine the presence of something which ought not to be there. My thanks are due to Mr. Osborn and Mr. Lloyd for their valuable assistance.

[1] THE LANCET, Feb. 5th, 1898, p. 335.

[2] The button-hook was of the cheap steel variety, shaped out of a piece of soft steel wire, and measured four and a half inches in length and one inch in breadth at the loop.

THE PRINCE OF WALES'S HOSPITAL FUND FOR LONDON.—We have received a copy of the "Subscription Book and Stamp Album," issued in connexion with, and in support of, the Fund, together with an autograph letter from H.R.H. the Princess of Wales in which she makes a heart-touching appeal to the children of the United Kingdom to assist the Fund by contributing their donations however small.

CORNWALL COUNTY ASYLUM.—The annual report of the Cornwall County Asylum at Bodmin showed that during 1897 the average number of patients had been 770, the highest yet recorded. The temporary accommodation provided near the asylum for 18 male patients is occupied and there are 22 patients boarded out at the Plymouth Borough Asylum. The report adds that the isolation hospital is to be commenced immediately. The committee refer in terms of regret to the resignation of the medical superintendent, Mr. Richard Adams, M.R.C.S. Eng., L.R.C.P. Edin., after forty years of valued service.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

Gastric Ulcer.

A MEETING of this society was held on March 14th, the President, Dr. SANSOM, being in the chair.

The PRESIDENT referred to the death of Sir Richard Quain, who had been a Fellow of the society since 1870, had served on the council for three years, and had been a Vice-President.—A resolution of condolence with the surviving relatives was passed and on the motion of Dr. THEODORE WILLIAMS the President was asked to represent the society at the funeral.

Dr. SEYMOUR TAYLOR read a paper on Gastric Ulcer and in discussing the causation of gastric ulcer reminded his listeners that the stomach lay nearly vertically in the abdomen, so that the so-called upper curve was really the right or lesser curve, the lower or greater curve being to the left. Seven-eighths of the organ at least lay to the left of the median line. The dome of the cardiac end rose quite an inch (sometimes more) above the level of the cardiac orifice. He pointed out that the pylorus was not a valve but a sphincter and its aperture would admit the little finger. He described two well-recognised varieties of innocent ulcer of the stomach: (1) the so-called chronic ulcer, and (2) the perforating or acute ulcer. He believed that these were distinct diseases—distinct alike in their etiology and in their pathology. The chronic ulcer affected males in the proportion of 72 per cent. of the cases, and mostly occurred between forty-five and sixty years of age. It did not occur exclusively in the poor but rather in those who led busy, excited lives and were sufficiently well off to indulge in large table extravagances. The chronic or spreading ulcer was usually situated near the pylorus; it was irregular in outline and the surrounding tissue consisted of the proliferated and heaped-up cellular elements of the stomach coats. Before perforation could take place there was almost always inflammatory adhesion to some solid viscus. He quoted the observation of Dr. S. Martin that "the anatomy appears to show that the ulcer was chronic from the first and that there was little evidence that it originated in the acute form of ulcer." As regards symptoms there might be no premonitory sign, the lesion occasionally only being discovered post mortem. One characteristic feature was the large amount of the vomited matter. There might be intervals of comparative health and freedom from pain and distress, but these returned on the first indiscretion of diet. Such sufferers were peculiarly prone to errors of diet; in fact, their appetites were depraved so that treatment was often disappointing. He insisted on the extremely infrequent occurrence of the clean, punched-out ulcer in males and as far as his researches had gone in the London hospital museums only two instances had been found. Passing on to the consideration of the perforating ulcer he pointed out that this form was most frequent in women, being indeed almost limited to that sex. Moreover, the victims were mostly single women between the ages of sixteen and thirty years. The influence of occupation and surroundings was well marked and there was a great similarity of etiology between chlorosis and acute ulcer. In both diseases a great preponderance of cases occurred in single young women, domestic servants and dressmakers accounting for more examples than any other class. It was noteworthy that in almost every case of acute gastric ulcer there was a previous history pointing to chlorosis. The site of the ulcer was variable but its shape was constant. Though most frequently situated near the lesser curve of the stomach it might be found in the cardiac region on either curvature and on either aspect of the viscus. In contrast with the chronic ulcer there was no marked inflammatory proliferated zone and during the stage of active process there was no obvious alteration of the tunics in the immediate neighbourhood. He suggested that the lesion was a nerve lesion of the nature of neurotic dystrophy. He commented on the marked differences in the symptomatology of the two varieties of ulcer, alluding incidentally to the fact that the severity of the symptoms was often in inverse ratio to the gravity of the pathological lesions. The pathological theories put forward to explain its occurrence were: (1) mechanical; (2) vascular; (3) glandular; and (4) neurotic. He dismissed the hypothesis of thrombotic necrosis as untenable and he was unable to admit that local traumatism could be incriminated. The vascular theory he regarded as unsatisfactory because it did not explain why the ulcer if thus caused should be single. The glandular theory did not commend itself to him because it ignored the fact that the disease was confined to one sex and occurred only in early adult life. In fact, a local neurosis was to his mind the only satisfactory pathology. In support of this view he instanced the great preponderance of cases amongst young women, the character of the lesion which reminded one of perforating ulcer of the foot in tabes as well as of the ulcers met with in herpes, and lastly its undoubted association with chlorosis. He asked them to admit with him that chlorosis was a neurosis because this was essential to his contention that both diseases had a common neurotic origin. He quoted numerous authorities in support of the view that the two conditions were closely associated and he urged that the only satisfactory grounds of argument for this view were to be found in the proposal that both chlorosis and acute ulcer were neurotic in their origin. In conclusion, he urged upon them not to delay affording such patients surgical skill even though there was reason to suspect that the ulcer had perforated into the peritoneum. Delay meant death and they ought not to allow any patient to perish for want of a laparotomy. Rather than overlook the urgency of the symptoms and allow a patient to die when the surgeon might have brought about a cure he would advise the operation ten times over.

Dr. THEODORE WILLIAMS agreed that there were frequent associations of chlorosis and gastric ulcer. He thought that Wilks's explanation was the most satisfactory—viz, that both conditions were due to a low state of the system. He recalled the interesting paper read before the society by the late Sir Andrew Clark on Some Cases of Chlorosis, which he called cases of "fæcal anæmia," and pointed out that iron in such cases would do no good unless remedies were given to relieve the constipation which was present. On that occasion he (Dr. Williams) pointed out that if this theory were correct there ought to be a great deal of anæmia in France, where constipation was notoriously common, but chlorosis was seen less frequently than in this country. He would have liked to have heard more about the treatment of cases of gastric ulcer. He preferred to treat them without giving drugs or food by the mouth, giving nourishment by the rectum. In some cases of prolonged rectal feeding there was biliousness and he thought that this was due to a want of flow of the bile, owing to the loss of the normal stimulus from the presence of food in the stomach and duodenum. The bile was therefore retained or re-absorbed. The connexion between gastric ulcer and chlorosis could not be a very close one, as the former only occurred in a small proportion of chlorotic patients.

Dr. MAGUIRE said that there was frequent association of chlorosis with gastric ulcer and possibly they were connected, but he did not think that it was necessary to invoke the theory that the conditions were due to a neurosis. Chlorosis was quite different from the other forms of anæmia. It always occurred during the period of development. The body generally developed rapidly, but there was less rapid development on the part of the blood-forming functions. Iron alone often did not do much for the patients, but iron combined with arsenic, which was known to act on the blood-forming organs in other forms of anæmia, was much more successful. In the chlorotic condition the gastric mucous membrane would be much more apt to be attacked by the gastric juice.

Dr. R. L. BOWLES said that thirty years ago he had been taught by a shrewd country medical man that not only was gastric ulcer of the kind under discussion almost confined to chlorotic girls, but that, like other cases of chlorosis and like rheumatic fever, it occurred as a result of overwork during a critical period of existence. Many of the patients were domestic servants, who were a very hard-worked class, getting insufficient rest, being the first to rise and the last to go to bed, and there was endless worry associated with their work. The most important part of the treatment was securing rest of mind and body and good hygienic conditions. In the early stage, before actual ulceration had taken place, iron might fail and aperients were not without danger. He found good results from giving bismuth and hydrocyanic acid with or without small doses of opium.

Mr. F. C. WALLIS would have liked to have heard more about the exact pathological condition found in the cases of chronic ulcer. He agreed with Dr. Maguire that in the acute stage the ulceration was due to lowered vitality of the mucous membrane. In low states of health an abrasion of the skin was apt to lead to sores which were difficult to heal and possibly these gastric ulcers might commence as abrasions. He was glad to hear Dr. Taylor's recommendation that no time should be lost in getting surgical assistance when there were any symptoms of perforation and that it was better to err on the side of opening the abdomen unnecessarily rather than to delay too long when an earlier operation might have saved the patient's life.

The PRESIDENT said that the discussion seemed chiefly to be concerned with the way in which the acute ulcer was brought about. It clearly was associated with chlorosis, but it was difficult to understand why, if it were due to a general morbid condition, there should only be a single ulcer and that often a small one. If the neurotrophic theory were correct it was possible that the nervous system acted through the vascular supply, causing constriction of the small artery supplying a particular patch of mucous membrane.

Dr. SEYMOUR TAYLOR, in reply, said that there seemed general agreement as to a connexion between gastric ulcer and chlorosis. If anæmia was uncommon in France, as Dr. Theodore Williams maintained, it certainly was not in the Channel Islands, where gastric ulcer was also frequently met with. He believed that rest was the most important part of the treatment. If food could not be retained he gave all nourishment by the bowel, but if it could be kept down he gave milk in small quantities with minute doses of opium. He had thought of applying oxygen locally, but had not yet done so. He agreed that the disease was more common in overworked girls, as rheumatic fever was, but he himself considered that rheumatic fever and chlorosis were also due to a neurosis.

PATHOLOGICAL SOCIETY OF LONDON.

Age Changes in the Placenta.—Fibroma of the Ovary.—Double Vagina.—Ovarian Cyst.—Submucous Intestinal Tumour.—Acromegaly.—Anæmic Infarct of the Lung.

A MEETING of this society was held on March 15th, the President, Dr. PAYNE, being in the chair.

On the motion of the PRESIDENT a vote of condolence was unanimously passed with the family of the late Sir Richard Quain, who was a trustee and a past president of the society.

Dr. EDEN read a paper with lantern demonstration on the Age Changes in the Placenta and Membranes and said that the structure of the placenta at term differed widely from that of the young and growing organ. The life of the placenta was a short one; it developed rapidly and as rapidly grew old, and was finally shed like a withered leaf. The ripe placenta was a worn-out organ, showing marked structural changes which were to be regarded as senile degenerations and must be carefully distinguished from pathological processes proper. Senile changes could always be detected in greater or less degree in healthy placentæ. The recognition of these changes was an essential preliminary of the study of the pathology of the placenta, which was at present in a state of confusion, this being to a large extent due to two causes—firstly, to the frequent citation of the senile changes here referred to as evidences of disease; and, secondly, to the fact that placentæ of macerated fœtuses were generally selected for study. It was the object of the paper to endeavour to describe the structure of the placenta at all periods of gestation and to attempt to outline the changes which occurred in the organ when the fœtus perished in utero. Until this had been satisfactorily accomplished it was impossible to make progress with the study of diseases of the placenta. It was convenient to regard the placenta as composed of two separate sets of structures and to describe first the fœtal and then the maternal elements. Attention would be limited to the human ovum and the earliest specimens Dr. Eden had examined personally were from the end of the first month. At this period the chorionic membrane was fully developed, its surface was covered everywhere with arborescent villi, and the decidua reflexa completely enclosed it. Special reference was made to the remarkable activity of the superficial or plasmodial layer of the chorionic epithelium at this period; the proliferation or budding of this structure was the first step in the formation of new villi, and the various stages of the process were shown on the screen. These features were only seen in the early months of gestation and their presence was pathognomonic of young placental tissue. The structure of the decidua was next described with the changes which occurred in the serotina and resulted in the establishment of the maternal circulation through the inter-villous spaces. These changes consisted in the invasion of the serotina by the chorionic villi and the opening up of the maternal vessels largely through their instrumentality. The attachment by which the fœtal and maternal elements of the placenta were held together and the manner in which the placenta increased in area were also described. About the mid-term of gestation the villi could be distinguished by their plumpness and the better development of their connective tissue, stroma, and blood-vessels. At this period also large stems (stamenzotten) were found from which villi arose. The budding of the plasmodial layer continued. The following senile changes could be detected in the placenta at term: (1) endarteritis obliterans affecting considerable tracts of the middle-sized umbilical arteroids; (2) degenerative changes in the plasmodial layer of the chorionic epithelium and in the decidual cells of the serotina; (3) formation of "white infarcts"; and (4) thrombosis of a certain number of the subplacental sinuses and serotinal vessels. The presence of these changes in placental tissue was sufficient to indicate that it belonged to the last two months of gestation. After the death of the fœtus if the ovum was retained the maternal circulation through the inter-villous spaces was not at once suspended. The spaces became gradually obliterated by thrombosis, but some sinuses in which the villi appeared quite fluid could often be found in placentæ that had been dead for many weeks. This was due to the fact that such villi remained in contact with the maternal circulation. Villi which became shut off by thrombosis rapidly perished and underwent marked fatty degeneration. Ultimately they became reduced to structureless objects which retained none of their former characteristics except their shape. The blood-clot in the inter-villous spaces did not become organised.

Dr. MORLEY FLETCHER showed two specimens: 1. A Fibroma of the Ovary taken from the body of a woman who died suddenly at the age of seventy-one years from spontaneous Rupture of the Heart. The fibroma was partly calcified. There was also a uterine myoma, partly calcified, which was attached by a long pedicle. 2. A Double Vagina from a young married woman. There was a double cervix, but there was no division of the uterus.

Dr. RAYMOND CRAWFURD showed a Tumour of the Ascending Colon of most unusual features. The tumour was much of the shape of a hen's egg, split in half from end to end, and with the flat surface of the half attached to the inner wall of the gut on the same side as the mesenteric attachment. It was three inches in its greatest length and two inches in its greatest width and depth. The surface of the tumour was divided up into six rounded ridges; its consistence was firm and very elastic. The ridges obviously corresponded to the normal folds of the mucous membrane. Along with the tumour there was an intussusception of the cæcum, vermiform appendix, and first few inches of the ileum down into the ascending colon. The clinical evidence seemed to show that the tumour was the primary trouble and probably of three months' duration; the intussusception apparently occurred only a day or two before death, which was due to rupture of the ileum. Under the microscope the submucous coat was seen to be almost entirely replaced by blood-clot and the mucous membrane and muscular coat were both in a more or less advanced state of necrosis. The question that suggested itself was whether the tumour was a hæmorrhagic infarct; if not, it was difficult to see the cause of the effusion of blood.—Mr. D'ARCY POWER said that his first impression was that this was a growth and although sections appeared to exclude sarcoma he thought there must be something more than hæmorrhagic infarction. The specimen was referred to the Morbid Growths Committee.

Mr. D'ARCY POWER showed a Cyst of the Ovary which he had removed successfully from a child, aged four months, whose abdomen had been increasing in size for three weeks before the operation. The cyst appeared at first sight to be perfectly simple and unilocular, but a closer examination showed two or three small nodules in its substance, and when the cyst was held up to the light innumerable small dots were seen studding it. Microscopic sections made through one of the larger nodules showed that it was hollow and

was filled with an albuminous fluid. The lining membrane consisted of epithelium from three to five cells deep, the external layer being columnar and the innermost layer flattened. In many places the innermost and intermediate layers of cells were undergoing karyomitosis. The cyst-wall was composed of ovarian stroma containing many minute Graafian vesicles. Each Graafian vesicle was itself undergoing a cystic change. Mr. Power considered that the cyst was truly ovarian and was probably congenital in origin. It was multiple, though at first sight it seemed to be single, and the change seemed to have begun in the Graafian vesicles. The youngest child hitherto operated upon appears to have been twenty months old. A dermoid cyst was removed in this case and the patient recovered.

Dr. WILLIAM HUNTER showed casts and specimens from a case of Acromegaly with Hypertrophy of the Pituitary Body and Changes in the Bone-marrow. The patient, a man, aged fifty-two years, was admitted into Charing-cross Hospital for sudden cerebral hæmorrhage and died a few hours later. He had been an out-patient at St. Bartholomew's Hospital under the care of Dr. Herringham for ten months and had been treated at first with pituitary gland substance and afterwards with thyroid gland substance in addition. At the necropsy ventricular hæmorrhage was found in the brain and there was an atheromatous condition of the large arteries. The kidneys were hypertrophied, weighing together 19 oz. The patient presented typical appearances of acromegaly—massive head and features, especially the nose and the lower jaw; broad, spade-like hands; and enlargement, although to a less extent, of the feet. The chest was deformed, there being upper dorsal kyphosis and projection of the lower wall of the chest on the left side. The chief changes were presented by the pituitary body and the bones. The pituitary body was enlarged at least twofold, presenting a red and very vascular appearance, microscopically showing, in addition to increase of gland substance, apparently normal, an unusual degree of vascularity, with hæmorrhages in parts and thickening of capsule. The thyroid body was hypertrophied, weighing 1½ oz. Marked changes were presented by certain bones as regards degree of vascularity and appearance of marrow. The increased vascularity of bone was marked in bones of the skull, especially in those of the base of the skull around the sella turcica, also in the cancellous tissue of the bones of the foot. In the tibia and femur hæmorrhages were found in the upper parts of the shaft. The marrow was increased remarkably and was notably red in the bones around the pituitary fossa, also in the shaft of the radius and to a less extent of the ulna. Microscopically no change was detectable. The condition appeared to be one of simple hypertrophy. Nowhere did the bones (periosteum or bone tissue) show any evidence of inflammation. Their enlargement (when enlarged) appeared to be the result of a simple hypertrophy, the increased vascularity and red appearance of marrow resembling those of growing young bone, although in the case of the marrow the redness was more marked than that ever shown by young bone. The hæmorrhages were probably incidental, related rather to the condition of the vessels generally than to the special bone changes. The paper was illustrated by casts and preparations preserved in formalin.—Mr. P. FURNIVALL observed that similar vascular hypertrophy of the pituitary body and hypertrophy of the viscera, such as the spleen and the lymphatic glands, had been described by other observers. He asked if there were any changes in the sympathetic ganglia or the central nervous system.—Dr. HUNTER, in reply, said that the nervous structures had not yet been thoroughly examined.

Dr. L. FREYBERGER showed an Anæmic Infarct of the Lung which was found in the body of a woman who died after three weeks' illness. During life there were signs of mitral stenosis. There was very feeble circulation, some gangrene of the tip of the nose occurring before death. There were twenty-four infarcts in the lungs, all but one of which were hæmorrhagic. The other was anæmic. Dr. Freyberger accounted for this by supposing that owing to the feeble circulation the hæmorrhagic stage of the infarction had not occurred.

The following note was accidentally omitted from our report of the proceedings of the Pathological Society in THE LANCET of March 5th.

Mr. D'ARCY POWER showed a specimen and skiagram of a case of Macrodactyly due to Diffuse Lipoma which had been sent to him for exhibition by Mr. Robert Jones, of Liverpool. The specimen consisted of the first and second toes of the left foot of a boy, aged thirteen years. There was a little movement in the toes before amputation, but there had been so much pain on walking that it was considered better to remove them. The case occurred sporadically in the family. It was unilateral and did not affect all the digits. The deformity was congenital. The x ray photograph showed the bones of the first and second toes to be greatly hypertrophied, the hypertrophy being in direct proportion to the thickening of the soft structures covering them. There was a certain degree of hallux valgus and all the toes were pushed outwards. A microscopical examination of the hypertrophied tissue showed that it had the characters of a diffuse lipoma.

CLINICAL SOCIETY OF LONDON.

Malformation and Displacement of the Kidney.—Perforating Wounds of the Knee-joint.—Chronic Hydrocephalus treated by Intracranial Drainage.

A MEETING of this society was held on March 11th, the President, Mr. LANGTON, being in the chair.

Dr. DAVID NEWMAN (Glasgow) read a paper on Malformations of the Kidney and Displacements without Mobility with illustrative cases. The paper was illustrated by cases and specimens which had come under Dr. Newman's observation during the last twenty years. *Congenital displacement without deformity.*—Case 1. Fixed displacement of the right kidney above Poupart's ligament simulating a perityphlitic abscess. There was a slight fulness of the abdomen in the right iliac and lower lumbar regions and a rounded swelling was felt passing upwards and backwards. It occupied an area of about two inches in breadth, running parallel with Poupart's ligament. The swelling simulated an abscess in its physical characters, but on being incised was found to be a misplaced kidney. Case 2.—Left kidney displaced downwards and forwards in a patient on whom lumbar colotomy was performed. The lower border of the kidney was found during an operation for colotomy immediately above the centre of the crest of the ilium, at the lowest limits of the colotomy incision. The organ was slightly lobulated but normal in size. Case 3.—Right kidney displaced downwards and rotated on its antero-posterior axis, the shortened ureter entering the upper aspect of the bladder. The convex aspect of the organ rested upon the brim of the pelvis, while the concave surface looked upwards. The right ureter was shortened and entered the bladder close to the upper aspect of that viscus. *Congenital displacement with deformity.*—Case 4. Right kidney at the brim of the pelvis, anomalous distribution of blood-vessels and deformity of the kidney. The kidney lay on the brim of the pelvis below the bifurcation of the aorta and was supplied by two arteries, one directly from the aorta and a second one from the common iliac artery. Case 5.—Malposition of both kidneys, one to the right of the promontory of the sacrum, the other in the iliac fossa. The right kidney was small and with no hilum.[1] Case 6.—Right kidney flat, oval in form and situated at the brim of the pelvis, supplied with two arteries and one ureter from the anterior aspect. The right kidney was a flat, oval body about the normal size, supplied by two arteries from the aorta just above the bifurcation, the right renal vein passing to the vena cava. The ureter started from the anterior aspect. The left kidney was normal in size, but lobulated slightly. *Acquired displacements of the kidney.*—Case 7. Acquired displacement of the right kidney by a perinephric abscess. The kidney with its convexity was looking upwards and lying close to the diaphragm, while the pelvis was turned downwards. The organ was firmly fixed by inflammatory adhesions. The renal vessels and ureter were elongated. *Malformation of the kidney.*—1. Variations in number.—One case of supernumerary kidney was described. *Single kidney.*—(*a*) Congenital absence of one kidney. Case 8.—Complete absence of the left kidney, ureter, and vessels; compensatory hypertrophy of the right kidney. The right kidney was normal in position, but weighed 12½ oz. and measured 5 in. in length and 4 in. in breadth. There was no trace of the left kidney or its vessels and ureter and no opening into the bladder corresponding to the entrance of the left ureter. Case 9.—Congenital absence of the left kidney, vessels, and ureter, placed

[1] Newman: Surgical Diseases of the Kidneys, p. 7.

in the museum by Dr. J. Lindsay Steven and almost exactly the same as Case 8. (*b*) Atrophy of one kidney. Case 10.—Extreme atrophy of the left kidney, with double pelvis but single ureter. The organ was of about the size of a walnut, the pelvis was branched, and there was no hilum. The upper limb of the pelvis sprang from the inner and upper aspect of the atrophied organ, while the lower arose from the lower border. Both limbs united about one and a half inches below the level of the kidney. Case 11.—Atrophied kidney, the renal tissue being almost entirely replaced by fat. The left kidney weighed ½ oz. Very little renal tissue could be found in the mass and what remained was completely embedded in firm fat. The right kidney was the seat of advanced chronic interstitial nephritis. Case 12—Atrophy of the right kidney with compensatory hypertrophy of the left kidney; disease of the suprarenal capsules. The right kidney weighed only 1 oz., the left 7½ oz. The atrophied kidney was embedded in a mass of adipose tissue and contained four cavities filled with pultaceous material. The ureter was thickened and its lumen obliterated. Absence of both kidneys had only been observed in the lower grade of monstrosities, especially acephalous monsters. *Variations in form and size.*—Hypertrophy of one kidney. Case 13.—Simple hypertrophy of the left kidney only; right kidney normal in size and appearance. The left kidney weighed 10½ oz. and the right weighed 6½ oz. In all respects the hypertrophied organ was healthy. *Fusion of two kidneys.*—(*a*) Horse-shoe kidney. Case 14.—Horse-shoe kidney united by an isthmus of fibrous tissue at the level of the bifurcation of the aorta. The renal form was well retained. Case 15—Horse-shoe kidney with lobulation and complete fusion of both kidneys. There were malformation of the pelves and anomalous distribution of bloodvessels. Case 16.—Horse-shoe kidney with complete incorporation of the two organs; lobulation of both segments. The ureters were deformed, and there was anomalous distribution of the blood-vessels. (*b*) *Sigmoid kidney.*—Case under the care of Dr. Lewis R. Sutherland. Complete fusion of two kidneys in the sigmoid form, the upper hilum presenting antero-internally, the lower anteriorly. The upper ureter was united at the right, the lower at the left angle of the trigone, and the renal mass occupied the right lumbar region. *Disc shaped kidney.*—The hilum faced anteriorly and antero-internally. There were two distinct pelves, one above the other. The lower ureter faced to the right of the trigone, the upper ureter to the left. The specimen was in the Museum of the Royal Hospital for Sick Children, Glasgow. Dr. Newman also referred to various anomalies in the pelves, ureters, and blood-vessels, as illustrated by cases observed in the Royal Infirmary, Glasgow.—Mr. WATSON CHEYNE asked Dr. Newman whether he had ever met with three kidneys in the same patient. He mentioned the case in which he had opened the abdomen on account of a lump which he could feel in front of the sacrum. This was found to be a third kidney. He explored the loins by introducing his hand through the incision and could feel the right and left kidneys in their normal position, the left being unusually small.—Dr. GLOVER asked how old Mr. Marsh's patient with renal tuberculosis was and whether there were signs of tubercle in any other organs. He asked on what points Dr. Newman relied in deciding that the kidneys were tuberculous.—Dr. NEWMAN, in reply, said that he thought that the presence of large caseous masses such as he found only occurred in chronic tuberculosis of the kidneys. The diagnosis of acute tuberculosis would rest on the microscopic examination of the urine and particularly on the demonstration of the tubercle bacillus. He had met with one instance of a third kidney, but it was only discovered post mortem. He regarded the condition as one of extreme segmentation of the kidney.

Mr. F. C. WALLIS detailed three cases in which the Knee-joint had been Perforated. Case 1.—A man, aged twenty-three years, whilst getting over some iron railings slipped and one of the spikes made an oblique wound in his left knee-joint. The joint became distended with blood and there were obvious signs of air in the joint. Twenty-four hours later, as the temperature was rising and the pain increasing, the joint was opened up and a large ragged tear was found in the capsular ligament. The joint was washed out with dilute perchloride solution and cleared of all blood-clot. The capsule was sewn up and the skin wound completely closed. No drainage was employed. The wound healed at once and free joint movement resulted. Case 2.—A girl, aged thirteen years, was admitted to the hospital with a perforating wound of the left knee-joint made by a pair of scissors half an inch above the patella. The temperature on admission was 102·2° F. The joint was distended and painful. As these increased the wound was opened up forty-eight hours later. The synovial fluid was turbid and large flakes of lymph escaped. The joint was freely irrigated with 1 in 3000 perchloride and the joint was closed up without drainage. Nine days later the wound was reopened on account of the pain and temperature and the joint was drained. The patient made a good recovery but walked too soon, and a certain amount of genu valgum resulted. This was treated with a Thomas's knee-joint splint. Case 3.—A boy, aged eleven years, was admitted with a punctured knife-wound of fourteen days' standing on the outer and upper side of the left knee-joint, which was markedly distended. The joint was swollen and the skin was red. Semi-purulent fluid escaped from the wound. The joint was opened and four ounces of semi-purulent fluid were let out. A corresponding incision was made on the opposite side and the joint thoroughly irrigated with a 1 in 3000 perchloride solution, after which the wounds were closed without drainage. Three days later the wounds had to be reopened and pus escaped freely. As the joint did not drain well a number of drainage-tubes were inserted in different places and continuous irrigation was carried out. Nine weeks later all the tubes were out. Four months after the operation the patient was discharged in a Thomas's knee-joint splint with fibrous ankylosis of the knee-joint. He ultimately required to have the joint excised on account of marked flexion of the knee-joint. Mr. Wallis remarked that only those cases recovered (that is, ran an aseptic course) which were immediately treated and he quoted various cases in illustration. On the whole he thought the results were better without drainage. Mr. Wallis defended his treatment of Cases 2 and 3, where the joint was sewn up and had to be reopened, by quoting cases where he had opened joints for septic synovitis and after thorough irrigation had sewn up the wounds, which had healed without difficulty. The treatment of suppurating joints was next discussed and it was shown that even prolonged suppuration did not necessarily mean ankylosis if certain lines of treatment were carried out.—Mr. HOWARD MARSH remarked that Mr. Wallis had drawn attention to a subject of considerable importance. Formerly cases such as he had related commonly ended either in the death of the patient from septicæmia or if this were escaped amputation of the limb. At the present day it is seen how closely the synovial membranes of joints resembled the peritoneum in their tolerance of aseptic operative interference. He had lately met with the following examples which bore upon the subject. In a boy with recurrent sarcoma he had opened the knee-joint on four separate occasions. In another patient he had four times opened and scraped out the cavity of the knee-joint for the removal of tuberculous granulation tissue. In a third case, a boy, aged four years, was run over in the street and the knee-joint was widely torn open and inoculated with street mud. Some of the muscles were lost through gangrene. The joint, however, which was drained and irrigated, was so far repaired that two months afterwards the limb could be bent to a right angle. In a fourth case, in which the knee-joint had several days before the patient's admission been perforated with a rusty nail, very acute septic arthritis ensued. Copious suppuration occurred and the ligaments were so far destroyed that the tibia moved in a flail-like manner on the femur. Repair, however, took place, although the joint was at first very loose. But the ligaments at length recovered themselves so that abnormal movement was prevented. The patient is now walking upon the limb and the joint is moveable through a range of 120°. These cases, together with those related by Mr. Wallis, serve to illustrate the degree in which the treatment of joint affections by active interference has been developed under methods that are at present in use.—Mr. A. E. BARKER agreed with Mr. Wallis that drainage was often overdone and the vast majority of cases were capable of treatment without it. Out of the last twenty or thirty cases in which he had opened the knee-joint he had only employed drainage in one or two instances, but in septic cases it was sometimes unavoidable. With regard to irrigation he thought that there was objection to employing irritating antiseptics. Those germs that were too deeply seated to be flushed mechanically could only be killed by the use of antiseptics so strong as to be unsuitable for irrigation. He therefore preferred to flush out with abundance of sterilised hot water. He agreed with Mr. Howard Marsh

that the knee-joint was as accessible to surgery as any part of the body and he thought that the change of opinion which had occurred with regard to this point was largely due to the fact that drainage was not now much employed. The opening of the knee-joint in order to wire a fractured patella gave rise to no anxiety and yet neither irrigation nor drainage was employed. Mr. Barker thought that passive movements should be commenced at once and active movements as soon as the wound was healed.—Mr. WATSON CHEYNE agreed that the plan of washing out the cavity with an antiseptic solution was undesirable, but he did not go as far as Mr. Barker with regard to drainage. Where the opening was an incision made by the surgeon drainage was undesirable, but if the wound was made by a foreign body a drain should be arranged for twenty-four or forty-eight hours and then removed if there was no sepsis.—Mr. WALLIS, in reply, said that in some cases he thought that the use of a strong antiseptic was unavoidable. He mentioned a case in which there was septic inflammation of the knee-joint which continued in spite of treatment for some months until he applied pure carbolic acid to the joint surface. The joint healed and the man was able to resume work, although there was not much movement in the joint.

Dr. G. A. SUTHERLAND and Mr. WATSON CHEYNE contributed a paper on a Case of Chronic Hydrocephalus treated by Intracranial Drainage. The patient was an infant, aged six months, who was suffering from congenital hydrocephalus and hereditary syphilis. No improvement had followed after three months of medical treatment and the head was steadily increasing in size. The condition at the time of the operation was one of very marked hydrocephalus, the bones of the skull being soft and widely separated and the vertex occupied by a large membranous space measuring nine inches in its widest diameters. The operation consisted in making a small opening in the dura mater opposite the left lower angle of the anterior fontanelle and introducing a catgut drain, one extremity of which was passed between the brain and the dura mater for a distance of one inch and the other pushed through the substance of the brain into the expanded lateral ventricle. A very small quantity of ventricular fluid escaped, the opening in the dura mater was completely closed with catgut sutures, and the scalp wound sewn up and dressed in the ordinary way. On the fifth day after the operation, when the dressings were removed for the first time, the wound was entirely healed. From the date of the operation there was a steady and uniform diminution in the size of the head without the occurrence of any bad symptoms, and within a few weeks the spaces between the cranial bones were entirely obliterated and the anterior fontanelle was much smaller, depressed, and pulsating. Later symptoms of basal meningitis developed and the infant died from that affection three months after the operation. At the necropsy the membranes at the base of the brain were found to be thickened and adherent and a considerable quantity of fluid was present in the subdural space. The brain was small and cystic in parts but there was no distension of the ventricles. Reference was made to the work of Dr. Leonard Hill, whose experiments on the absorption of fluids from the subdural and subarachnoid space suggested the line of treatment which had been adopted. By establishing a permanent communication between the ventricles and the subarachnoid space it was hoped that however much fluid was secreted in the ventricles it would be carried off at once by the veins, and in the absence of injurious pressure the brain would be left free to develop if it could. The result of the operation had shown that in hydrocephalus the excess of ventricular fluid could be removed by this method of intracranial or subdural drainage. They had brought a similar case for inspection which had been operated upon three weeks ago, and members could see for themselves what an extraordinary diminution had taken place in the size of the skull. They did not suppose that in this case any useful result would accrue as regards mental development, but the operation, at any rate, gave the child a chance. It proved, moreover, that if they could get these cases earlier, before the brain had been injured by pressure, there was a reasonable chance of permitting the development of the brain to proceed.—Mr. STANLEY BOYD said that the post-mortem appearances in the first case threw a doubt on any probability that the results of the operation would be permanent. It seemed that the hole through which the drain of catgut came became adherent to the dura mater and the object of the operation was frustrated. Even in the living patient who was shown it was likely that when catgut had become entirely absorbed the brain would be likely to become adherent to the dura mater, obliterating the communication.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases.

A CLINICAL meeting of this society was held on March 4th, Dr. H. P. POTTER, President, being in the chair.

The PRESIDENT showed a case of a Button-hook removed by Gastrotomy from a woman together with a Skiagram taken by Dr. F. H. Low showing the hook in the stomach before removal. (For a full report of this case and a reproduction of the skiagram see p. 786.)—Mr. KEETLEY alluded to a case of a woman who had swallowed a plate of false teeth which had become impacted in the œsophagus and had led to a fatal result. He congratulated Dr. Potter on the success of his case.

Mr. KEETLEY showed a case of a man who had been mauled by a Leopard, who after the injury had a very high temperature and had been treated by anti-streptococcic serum.—Mr. MCADAM ECCLES mentioned a case of a man who had been severely wounded by a lion in the thigh and who had died from septicæmia.—The PRESIDENT remarked that he thought that it was not unlikely that tetanus might result from such wounds.—Mr. TWYNAM related three cases of Shark-bite in boys in which there had not been any untoward result.

Mr. KEETLEY also showed the case of a boy on whom he had performed Erasion of the Knee-joint for early Tuberculous Arthritis. The result was all that could be desired.—The PRESIDENT alluded to a case of a woman on whom he had performed arthrectomy on both knee-joints with very gratifying results.

Dr. SEYMOUR TAYLOR exhibited a case of Locomotor Ataxia in a man.—Dr. WHITFIELD remarked that in some such cases there was delayed sensation and not true anæsthesia.

Mr. MCADAM ECCLES showed a case of a girl, aged three years, with Wandering Rash on the Tongue. He also brought forward a case of an Injury to the Lower End of the Left Radius in a boy, aged fourteen years, and with it a skiagram taken by Dr. Low, which well demonstrated the injury.—Dr. ABRAHAM showed a case of Acute Psoriasis in a boy.

Mr. MCADAM ECCLES (for Mr. BIDWELL) showed a man who Fractured his Right Patella some years ago and more recently his Left. This Mr. Bidwell had wired, but the same patella was refractured a few months later, the wire breaking as well. It had been wired again. Mr. McAdam Eccles remarked that he believed that possibly bony union of the patella was not always so much to be desired as was commonly thought.

Dr. WHITFIELD showed a case of Spasmus Nutans in an infant.—Mr. MCADAM ECCLES alluded to a similar case.

BRITISH ORTHOPÆDIC SOCIETY.

Acquired Flat Foot.

A MEETING of this society was held at the Royal Orthopædic Hospital, London, on Feb. 25th, Mr. H. A. REEVES presiding.

Mr. A. H. TUBBY, Mr. LUKE FREER, Mr. E. MUIRHEAD LITTLE, and Mr. THOMAS showed cases.

Mr. MUIRHEAD LITTLE opened a discussion on some points of interest in Acquired Flat Foot. The arch of the foot was no arch in an architectural sense. Its functions were those of a spring buffer and a lever. Golbiewski, Meyer, and Dane had shown that under the weight of the body the base of the fifth metatarsal bone descended more than did the scaphoid. In the over-pronated foot, on the other hand, the inner arch descended more while the fifth metatarsal ascended under weight. According to their over-pronation was the initial change in flat foot, yet this condition was found accompanying too high an arch. Inefficiency of the long muscles on

the inner side of the ankle was an important factor in causation. The subastragaloid joint was of great importance in this connexion. Rigidity was of considerable moment as affecting treatment. In bad cases there were signs of ill-nutrition of the limb and the foot was often clammy and bathed in sweat. Theoretically flat foot should not accompany genu valgum but it was often present. It had no special connexion with scoliosis. Bone deformities were secondary. Diagnosis was easy, but cases of "in-ankle" with high arch were sometimes taken for flat foot. Footprints were often used as a means of diagnosis and record but were not always trustworthy. He had studied the footprints of fifty recruits passed as fit for the army and described a simple method of measuring such prints and of numerical comparison. The treatment was palliative or curative. He had never trusted to gymnastic exercises alone and could not say to what extent patients benefited by them. Mr. Jackson Clarke had stated at a former meeting that he had known the sound foot to break down under the exercises. Reduction must always be first effected by rest in adducted positions, manipulation under an anæsthetic, or if needed tenotomy of peronei and extensors. Wedge-soles were most useful. They corrected over-pronation. Whitman's brace—a metal support—fitted to the arch of the corrected foot was often of service. In other cases a concealed spring convex outwards on the outer side of the foot or the familiar outside upright pad and T-strap were necessary.

Mr. JACKSON CLARKE said that the importance of exercises was perhaps exaggerated. He treated his cases with an iron and T-strap.

Mr. OPENSHAW pointed out that it was a mistake to suppose that the inferior calcaneo-scaphoid ligament was stretched and thinned. It was the internal ligament that was so affected. He thought the arch itself was not diseased until the astragalus almost touched the ground. He thought no operation equalled Ogston's for severe cases.

Mr. LUKE FREER concurred with Mr. Jackson Clarke's views as to exercises. He preferred a raised sole with steel spring arch inside the boot.

Mr. TUBBY referred to Mr. Golding-Bird's method of estimating flat-foot. He thought the peroneus longus caused "in-ankle." In certain cases excision of half an inch of the tendon effected a cure.

Mr. LITTLE, in reply, agreed with Mr. Openshaw as to the projection and sinking of the astragalus. Mr. Golding-Bird's method was entirely inapplicable to footprints. He had not seen any signs of over-action of the peroneus in his "in-ankle" cases. He could not understand how removing a portion of tendon cured spasm unless non-union was aimed at.

A vote of thanks to the Chairman and to the hospital authorities closed the proceedings.

ÆSCULAPIAN SOCIETY OF LONDON.

Exhibition of Specimen.—Suppurative Mastitis with Acute Hepatitis and Acute Nephritis.—Leg and Cord Presentation.

A MEETING of this society was held on March 11th, Dr. B. G. MORISON, President, being in the chair.

Mr. BREMRIDGE showed a woman, aged forty-five years, the subject of Lupus Erythematosus, which began three years ago at the nasal root, spreading thence to the forehead and cheeks, not involving the eyelids. Close below the mastoids were symmetrical, thick, red patches 3·75 cm. in diameter.

Mr. W. CAMPBELL M'DONNELL read notes of a woman, aged thirty-five years, seen one month after the delivery of her fourth child with Rigors. Her temperature was 102·4° F., her pulse was 120, and her respiration was 36 per minute at 1.15 P.M. The liver was felt 7·5 cm. below the rib, was very sensitive to gentle pressure and ached constantly. There was a deep abscess of the left breast, incision of which was refused, and there was acute nephritis (albumin equalled one-third). On the fifth day permission to open the abscess was given. Under chloroform one pint of pus was evacuated. Profuse recurrent hæmorrhage followed, but was controlled by replugging and redressing the wound. The patient passed a good night. On the seventh day the skin, fat, and gland were sloughing; the temperature was 104·6°. Under chloroform about two-thirds of total mammary skin, fat, and gland, now sloughed, were dissected away. On the following day healthy granulations were seen. On the tenth day the liver could not be felt; albumin equalled one-tenth in the urine. On the twenty-fourth day there was no albuminuria. In six weeks the breast wound had healed over and the patient was well though weak.

Dr. J. W. HUNT related a case of a Leg and Cord Presentation of a ten weeks' Living Fœtus. On making quite moderate traction on the leg the body came away leaving the head in utero. Ergot was given and in about three hours the head was found in the bed.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases and Specimens.

A CLINICAL meeting of this society was held at the Royal Kent Dispensary, Greenwich-road, S.E., on March 4th, the President, Mr. P. W. ARBUTHNOT LANE, being in the chair.

Dr. F. S. TOOGOOD showed the following cases:—1. Case of Suprapubic Cystotomy in a boy, aged four years, for stone. There was persistence of the sinus for four months and ultimate closure by buried sutures around the sinus. 2. Case of Fractured Patella. Perfect union and complete mobility of the joint was secured by Barker's method of suture. 3. Hæmophilic Elbow-joint. 4. Case of a woman, aged twenty-three years, in whom Lateral Curvature of the Spine and Paresis of the Legs and Left Arm dated from an attack of myelitis caused by a fall down-stairs occurring five years ago.

Dr. R. E. SCHOLEFIELD read notes of a case of a man, aged sixty-five years, who showed no symptoms of typhoid fever during life, but in whom numerous Typhoid Ulcers were found post mortem. Dr. Scholefield then showed the perimetric charts of a case of Symmetrical Scotoma with Hemi-achromatopsia in a patient aged fifty years.

Dr. F. T. TAYLOR showed a specimen of Aneurysm of the Heart and Ruptured Auricle from a man who was found dead in a water-closet.

Dr. MORGAN DOCKRELL showed—(1) a case of Bazin's Disease; and (2) a case of Tuberculosis of the Lips.

Mr. EBNEST CLARKE exhibited a series of beautiful mounted specimen of eyes illustrating the disastrous effects of Irido-cyclitis in producing (1) detachment of the retina; (2) glaucoma; (3) anterior synechiæ (complete) with exclusion and occlusion of the pupil; and (4) anterior staphyloma.

LIVERPOOL MEDICAL INSTITUTION.

Exhibition of Cases.

A MEETING of this society was held on March 3rd, Dr. MACFIE CAMPBELL, President, being in the chair.

Dr. RAWDON related two cases of Inguinal Hernia in which the strangulated bowel was excised and end-to-end union by Murphy's button successfully resorted to. In the first case the coats of the gut had become so injured by the strangulation as to cause it to rupture during a careful attempt to return it. The patient made a good recovery. The "button" may have passed but it had not been seen. In the second case the bowel was on the verge of gangrene. The "button" was passed on the twenty-first day. An excellent radiogram was exhibited, taken by Dr. Holland four days before, which showed the shadow of the button.—Mr. BANKS, Dr. ALEXANDER, Mr. PUZEY, and the PRESIDENT made remarks upon the subject of intestinal anastomosis.

Dr. T. R. GLYNN showed a patient suffering from Friedreich's Disease in whom apparently it was not hereditary.—Dr. BRADSHAW and Dr. A. DAVIDSON spoke.

Mr. BANKS showed a Hydatid Cyst containing daughter cysts removed from the adductor muscles of the thigh of a boy, aged twelve years who came from Rhyl. It had been present for seven years, recently rapidly increasing in size. From the history and symptoms a diagnosis was made of inflamed hydatid cyst, corroborated by an exploratory puncture. Mr. Banks from his own experience had noticed that a considerable number of cases of hydatid disease came from North Wales.

Mr. RICHARD WILLIAMS showed a case of Tuberculosis of the Iris in both Eyes in a girl, aged thirteen years, who had a very tuberculous history.

Mr. R. W. MURRAY made some remarks on the Treatment

of Congenital Club-foot and brought forward a series of cases he had operated upon during the last seven years. In infants he advocated free subcutaneous division of all the structures on the inner side of the foot down to and including the calcaneo-scaphoid capsule and then fixing the foot immediately in the over-corrected position. In children who had already learned to walk he removed a wedge of bone irrespective of bones and joints and emphasised the importance of removing sufficient bone to allow of the deformity being easily and completely corrected at the time of operation. Mr. Murray had thus operated on fifty-one feet in forty-one patients.—Mr. BANKS thought wrenching in very young infants sufficient and he personally was rather in favour of removing the head of the astragalus.—Mr. NEWBOLT strongly advocated the use of the wrench in cases of clubfoot—with few exceptions. In cases thus treated there were no loss of mobility, no shortening of the foot, no scars, and no risk. The mechanical principle of the treatment must be thoroughly understood and treatment continued until the patient can hold his foot in a good position of his own free will. The boot should be altered to keep up the corrected position.—Mr. DAMER HARRISSON and Mr. MACLEOD ROSS also spoke.

Dr. ABRAM read notes on a case of Phthisis treated with Tuberculin (T.R.). The treatment was carried out exactly as Koch advocated, the patient put on weight, improved in every way, and although tubercle bacilli had been found before treatment none were obtainable now.—Dr. LOGAN gave particulars of two cases treated with tuberculin with encouraging results. The first, a woman, aged thirty-five years, was under treatment in 1891 and received fifty injections. Tubercle bacilli disappeared from the sputum and have remained absent up to this date, although the lung still gives rise to trouble. Case 2 with the new tuberculin was much improved. He drew attention to the question of mixed infection in which the tubercle might be eradicated and still a condition of injured septic lung remain.—Dr. BUCHANAN thought that very few cases of phthisis were cases of pure infection by tubercle and therefore the majority could hardly be submitted to the treatment by tuberculin. He questioned the logic of the method, for each patient suffering from tubercle was really daily absorbing material the same as tuberculin T.R. The results have not been so far encouraging according to von Ziemssen, Sprengler, and Hohr.—Dr. MACALISTER, Dr. GRÜNBAUM, and Dr. NATHAN RAW joined in the discussion.

The Bacterial Flora of Liverpool Water.—Exhibition of Specimens.

A MEETING of the Microscopical and Pathological Section was held on March 10th, Mr. F. T. PAUL being in the chair.

Professor BOYCE and Dr. C. A. HILL brought forward a preliminary note on the result of their investigation of the Bacterial Flora of Liverpool Water. They had examined not only the city tap water but also the water at the gathering grounds at Rivington and at Vyrnwy and water taken direct from the wells which are still used and also from the various reservoirs, &c. They had come to the conclusion that there is a specific flora for water, just as there is for sewage, milk, &c., and they held that it is possible to differentiate between these several groups. The methods of collection and examination employed were described and a large number of cultivations and photographs were shown. They found that identification of the individual members of the large numbers found was difficult, and so they had adopted a simple system of classification, which was explained. The results of the examination established the great purity of the Liverpool water, but they insisted upon the importance of routine examination at frequent intervals and emphasised the delicacy of the bacterial method as compared with ordinary chemical analysis, especially in demonstrating the efficiency of filtration.—Mr. PAUL and Dr. CARTER considered that Professor Boyce and Dr. Hill had made out a case for the routine bacteriological examination of all drinking water. Dr. Carter had never quite believed in the value of the chemical examination.—Dr. KENYON (Chester) congratulated Professor Boyce on the thorough study he was making of the natural flora of water so as to be able at once to recognise the intrusion of any abnormal organism. He admitted the value of the bacterioscopic method, but held that it had confirmed in a remarkable way the results of chemical analysis, especially as to the efficiency of sand filtration.—Dr. WARRINGTON and Dr. NATHAN RAW also entered into the discussion and Professor BOYCE replied.

Besides those illustrating the above communication the following specimens were shown:—

Dr. MACALISTER showed a Spindle-celled Sarcoma of the Brain involving the left temporo-sphenoidal lobe and extending up to Broca's convolution.

Dr. J. WIGLESWORTH showed a specimen of Old Softening of the Left Cerebral Hemisphere from Occlusion of the Left Middle Cerebral Artery in a man aged fifty-one years. He carefully described the parts involved, from the cortex to the lower end of the spinal cord and compared these with the symptoms during life. The communication was illustrated by many preparations and by photographic lantern transparencies. He also showed an Aneurysm of the Carotid Artery from the same case.

Dr. G. G. STOPFORD TAYLOR showed some drawings and microscopic preparations of a Patch of Acute Folliculitis of the Skin of the Side of the Nose. It occurred in a cowkeeper and seemed to be infective. He described the symptoms and treatment and the histology of the mass removed.

Mr. LARKIN showed for Mr. JOHN ROBINSON (Runcorn) a very large Sequestrum from the Calvarium. It measured 8½ in. antero-posteriorly and 6¾ in. transversely. It comprised two inches of the apex of the occipital bone, both parietals—the left as far down as the eminence, and the right to below the temporal ridge—and nearly an inch of the upper margin of the frontal bone. For a considerable space in the centre the whole thickness of the bones was involved. The patient from whom it came was also shown. He was an epileptic, aged fifty years. He had fallen into the fire in a fit and his scalp was burnt off. The sequestrum separated a year later on getting a violent blow in a fall in another fit. The brain pulsations could be both seen and felt for a circular area some three inches in diameter to the right of the centre of the top of the head.

Mr. LARKIN also showed for Mr. ROBINSON a large Gall-stone (40 mm. by 25 mm.) which he had removed from the rectum of a hypochondriac patient. For comparison with this Mr. Larkin showed a somewhat smaller stone he had removed by operation from the ileum of a woman in whom it had caused intestinal obstruction.

Mr. LARKIN also showed a microscopic section of a Pedunculated Tumour of the Areola of the Nipple. It was of interest as it was one that was the subject of one of the plates in Mr. Hutchinson's smaller Clinical Atlas. The tumour was a pure fibroma, covered on the surface with stratified pavement epithelium.

Dr. BUCHANAN showed some Crystals of Phenyl-glucosazon from Diabetic Urine and described the pathology of a case of pleuro-pneumonia which occurred in a cattle-man. He illustrated his communication with microscopic specimens and numerous micro-photographic lantern transparencies.

Dr. NATHAN RAW showed a Fibro sarcoma of the Right Auricle of the Heart, with rupture of the inferior vena cava into the right pleura; also a Horse-shoe Kidney and a Primary Carcinoma of the Uterus, with secondary deposits in the brain.

Dr. CRAIG DUN showed a Dissection of the Posterior Abdominal Region in a case of Horse-shoe Kidney recently met with in the anatomy rooms at University College.

Mr. THELWALL THOMAS showed sections of a Primary Carcinoma of the Kidney in a woman, aged fifty years. The kidney had been removed by operation. She had had hæmaturia for three months and cystoscopic examination showed that it came from the left ureter.

A discussion followed. Dr. BRADSHAW held that the cerebral tumour Dr. Macalister showed did not involve Broca's convolution. Mr. PAUL and Mr. LARKIN held that Dr. RAW had not made out that the cardiac tumour which he had shown was a sarcoma.—Dr. WARRINGTON, Mr. NEWBOLT, Dr. RAW, Professor BOYCE, Dr. BUCHANAN, Dr. J. WIGLESWORTH, and Dr. MACALISTER also joined in the discussion.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

Non-suppurative Inflammation of the Middle Ear.—Exhibition of Specimens.

A MEETING of this society was held on March 2nd, Dr. CATTLE, President, being in the chair.

In view of the Government's avowed intention of introducing an Army Bill into Parliament at an early date Dr. GIDDINGS proposed and Dr. CATTLE seconded the following resolution, which was carried unanimously:—

"That the Nottingham Medico-Chirurgical Society, viewing the present unsatisfactory condition of the British Army Medical Service with anxiety and dismay, hereby calls upon Her Majesty's Government to accede to the reasonable and persistent demands of the whole British medical world by forthwith adopting that scheme for army medical reform which has been submitted to it by the foremost physicians and surgeons of the day."

It was decided that copies of this resolution should be sent to Lord Salisbury, Mr. Balfour, and the local Members of Parliament.

Mr. GRAY read a paper on Non-suppurative Inflammation of the Middle Ear. After describing in detail the pathological changes in the mucous membrane of the middle ear in the two forms of non-suppurative inflammation—viz., mucous catarrh and the dry catarrh—he discussed the various symptoms and signs. For the treatment he laid down four great indications: (1) get and maintain patency of the Eustachian tube; (2) removal of the exudation in the middle ear; (3) reduction of the swelling of the mucous membrane of the middle ear; and (4) very important—the treatment of any co-existent naso-pharyngeal trouble.

Mr. ELLERTON showed a Portion of a Heart with Two Aortic Cusps only.

Dr. HANDFORD showed—(1) a Mediastinal Tumour; and (2) a Portion of Brain showing a number of Small Tuberculous Growths; there was also acute miliary tuberculosis.

Mr. ANDERSON showed—(1) the Wall of an Ovarian Cyst which was studded with warty growths; (2) an Ovarian Tumour of the Cyst, adenomatous variety, and a Parovarian Cyst from the same case; (3) Ruptured Tubal Pregnancy; and (4) Uterus with Fibroid Tumour complicating pregnancy removed by Porro's operation.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF STATE MEDICINE.

Housing of the Poor in Dublin.—Animal Vaccine.

A MEETING of this section was held on Feb. 18th, Dr. H. C. TWEEDY, the President, being in the chair.

The PRESIDENT in his opening address called attention to the much-neglected question of the Housing of the Poor and showed that with a few exceptions healthy tenement accommodation could not be obtained in Dublin at a lower rent than 4*s.* a week—a rent which a very large class were quite unable to pay—and that consequently they were obliged to live in overcrowded dwellings, most of them in a very old and decayed condition. He believed that it was the duty of the municipality to provide tenement accommodation of a suitable kind and at a weekly rent of from 2*s.* a week downwards for the class not earning the steady wages earned by the ordinary artisan. This could only be done at a financial loss and the corporation, though most anxious to forward the movement, were unable to do so for lack of funds.

Mr. KNOX DENHAM, the director of the only calf-lymph institute in Ireland, read a paper on Animal Vaccination in which he said that the best form of calf-lymph was that made in a glycerinated emulsion, glycerine being in every way preferable to either lanoline, vaseline, or lymph in the dried state, as on ivory points. The experiments made by Professor McWeeney at the Calf Vaccine Institute prove this and plate cultures made by Dr. Blaxall demonstrated that although numerous extraneous microbes exist in all fresh calf-lymph, storage of glycerinated calf-lymph from four to six weeks causes the total disappearance of extraneous microbes, the activity of the vaccine remaining perfect, whereas with lymph treated with lanoline or vaseline the original colonies of microbes continue rapidly to increase with the length of storage. In the manufacture of calf-lymph in Dublin no antiseptic of any kind is used, asepsis being obtained by the abundant use of sterilised water, scrupulous cleanliness through boiling of all instruments and corks and the sterilisation of the capillary tubes in a hot-air steriliser.—The REGISTRAR GENERAL said that they were greatly indebted to Mr. Denham and several others for promoting the preparation and preservation of calf-lymph in its present form. He stated that Dr. Purcell had used glycerine as a means of preserving his lymph for the last twenty years or more. Unfortunately there were people who would probably never be convinced that vaccination was of any use.—Mr. HORNE said that so far as Ireland was concerned he did not think that there was any popular objection to the use of humanised lymph and experience amply bore out the fact that arm-to-arm vaccination was the most efficient form of vaccination. Bacteriologists had not hitherto been able to solve the question as to what animal or humanised vaccine really was.—Mr. A. N. MONTGOMERY, Dr. DONNELLY, Mr. DOYLE, and Surgeon-General POTTER also took part in the discussion.

Reviews and Notices of Books.

Workhouses and Pauperism and Women's Work in the Administration of the Poor-law. By LOUISA TWINING. London: Methuen and Co. 1898. Price 2*s.* 6*d.*

So intimately associated with the reforms introduced into Poor-law administration during the past forty or fifty years is the name of Louisa Twining that any contribution coming from her pen is sure to be read with eagerness, interest, and, if necessary, with indulgence. This work consists of a retrospect of the various movements towards Poor-law reform, interspersed with copious extracts from the diary of the author, together with many valuable suggestions for the future. It pays special attention to matters connected with the management and education of the children of the poor and with the treatment and nursing of the sick in infirmaries and workhouses, subjects in which we ourselves have taken more than a passing interest, for it was owing to the efforts of Miss Twining and THE LANCET Commission that the great reforms of over forty years ago were initiated.

The writer is herself a living example of the good which can result from earnest women workers in this sphere; and, as stated in the preface, one of the principal objects of the book is to enforce still more strongly her conviction of the part which women are called upon to take in carrying out the Poor-law. Not only are women guardians advocated, in which position they may be of great use in the care and management of children, but women inspectors, women visitors of the poor, and even women relieving officers are shown to be, and in many cases to have been, most desirable reforms. The success of the experiment of appointing a lady inspector of schools so long ago as twenty-two years has never been called in question and the author is of opinion that a further extension of the plan is "urgently demanded not only in that department but also for the infirmaries and sick wards, where the work of the nurses can only be fully tested by the inspection of women trained either in medicine or nursing, for how otherwise can the real state of things be ascertained and corrected, relating as they do chiefly to the personal care and condition of the sick *when those who have the authority and the responsibility are themselves unskilled in the details*, and the medical attendant is probably, as in many country unions, only an occasional visitor, who cannot bestow the time and attention needed for supervision?" The italics are ours, as representing in our opinion the chief difficulty of the situation. It is in the field of workhouse nursing that this ardent reformer has perhaps accomplished most. It was at her initiation and that of THE LANCET Commission that the great necessity for reforms was first made known and she was one of the chief originators of the Workhouse Infirmary Nursing Association, which has done so much good in this direction. The writer of this work rightly enters her protest against the tendency to set a misplaced value on "previous experience," as distinguished from actual training and education, in the appointment of officials—and especially nurses—under the Poor-law.

How closely the author has studied the social and scientific needs of the day can be seen from her reference to

the question of the admission of physicians and students to the wards of workhouses and infirmaries. After referring to the many attacks that have been made against the prejudice which bars progress in this direction, and to the advantages which would accrue to the ratepayers, especially to the patients themselves, and to the absurdity of the argument that the poor have a dislike to being made the objects of examination, she concludes with the following passage:—"But surely there is another and even stronger reason in the fact that there are no such opportunities for students to learn their profession in many departments as are to be found in these State institutions. And as this fact has been acknowledged in the case of the metropolitan asylums, to which all infectious diseases are now consigned, we cannot but hope that the wall of prejudice which has hitherto excluded this class of institutions from being made more extensively useful may ere long be broken down, and we should then probably hear less of their enormous cost to the ratepayers."

The present difficulty in obtaining trained nurses for country and even London workhouses and infirmaries—almost amounting, as it does, to a deadlock—owing largely to the present unpopularity of the service, is discussed with judicial fairness and several excellent proposals are made. For instance, it is suggested that the smaller country unions should combine together to provide on a larger, and therefore more efficient and economical, scale for their indoor sick; and, again, that the nursing service should be converted into a state service like that of the male and female army nurses. Here candidates are engaged, bound for a term of years, paid salaries during training, receive gratuities at the end of their time, and even pensions under certain conditions. We heartily commend the perusal of this excellent little book to the attention of all those interested in Poor-law, as representing the devotion of a life to the study of the needs of the suffering poor.

A Handbook of Midwifery. By W. R. DAKIN, M.D., B.S., F.R.C.P. Lond., Obstetric Physician and Lecturer on Midwifery and Diseases of Women to St. George's Hospital, &c. With 400 Illustrations (nearly all of which are original). London: Longmans, Green, and Co. 1897. Price 18*s*.

WE learn from the preface that the author's intention in writing this work has been more especially to provide something suitable for students and junior practitioners. The subject is divided naturally into two divisions, the one dealing with the Physiology and the other with the Pathology of Pregnancy, Labour, and the Puerperal Period. The author says: "It has been my care to read through, or at least examine, all available treatises and monographs dealing with each portion of the subject, to allow the facts, f any appeared, to undergo mental digestion, and then to write the paragraph or chapter dealing with the particular question." Such a system is undoubtedly a sound one; but, if the statement is to be taken literally, to follow it would seem to be an impossible feat. The author, it will be seen, introduces no limitation as to languages; he has "read through, or at least examined, all available treatises and monographs," that is to say all, in all languages, "dealing with each portion of the subject." If anyone will take the trouble to look at the formidable array of obstetrical treatises and monographs in the English language alone in any good obstetrical library he will be inclined to think that either the author must have exceeded already the normal span allotted to man by a considerable interval, or that at the moment of writing the preface he was availing himself of a poetic licence not generally accorded to writers on obstetrics. "The main part of the matter contained and the opinions expressed in the text is (*sic*), however, derived from the experience I have gained from my own cases, principally in hospital, and from the cases of others either seen by me or described by observers worthy of confidence," so that those whose cases and opinions are not mentioned by the author will be concerned to find that the author has read all they had to say but rejected it as indigestible and worthless. The earlier chapters on the Physiology of Pregnancy and the Physiology of Labour are clear and to the point. In the section on the Management of Labour we think that the author is scarcely as dogmatic and earnest in the matter of antiseptics as the vital importance of the question demands. No doubt Dr. Dakin believes in this importance himself, but there should, we think, in a work intended for students and junior practitioners be no uncertain note on this matter. Thus we read: "In the majority of labours cleanliness is probably all that is needed; but the possibility of the existence of infective material on the hands of the medical man or nurse which cannot be entirely removed by simple washing makes it advisable to use some antiseptic to destroy such matter." This is no doubt right enough as the author means it, but we think it likely that the statement that "cleanliness is probably all that is needed" will be likely to impress itself on the mind of a student or practitioner and to be taken to justify him in dispensing with antiseptics, or in regarding their use as optional. Then in describing the disinfection of the hands under the head of Essentials we see nothing about keeping the nails short, and after brushing the hands and especially the nails "with hot soap (*sic*) and water" they are to be placed in a 1 in 1000 solution of corrosive sublimate for fifteen seconds. Nothing under this heading is said about rinsing off the soap in plain water before the hands are placed in the sublimate lotion, and we certainly think that the time recommended (fifteen seconds) for the immersion of the hands is much too short, especially when it is remembered that the tendency will in practice be rather to shorten the time recommended than to lengthen it. We also think that *brushing* the hands and nails in the sublimate lotion is much better than simple immersion.

A noticeable and agreeable feature in the book is the large number of original illustrations from the author's hand. They are for the most part clear and even artistically meritorious. The term "retraction"—one that often presents difficulty to students—is here clearly defined: "it enables a fibre which has shortened to relax without returning to its original length." And again the difference between "uterine exhaustion" and "tetanus uteri" (subjects as to which students are often in difficulty) is lucidly described. To many of the sections a useful epitome of the more essential facts is appended—for instance, to that on the Treatment of Still-birth. A diagram illustrating the treatment of hæmorrhage from the navel, either due to rupture of the cord at its insertion, or occurring after separation of the cord, plainly teaches the proper method of dealing with this sometimes formidable accident. In the treatment of puerperal eclampsia the author's preference is for chloroform, and though he mentions morphia he does not seem to regard it with favour. At the Rotunda Lying-in Hospital, Dublin, on the other hand, we believe that injections of morphine are preferred to the inhalation of chloroform. We observe that the mortality of Cæsarean section is given as about 5 per cent., a somewhat lower figure than we should think expressed the average risk even in skilled hands. We have already expressed our general appreciation of the illustrations, but there are one or two not quite so good; thus Fig. 375 intended to teach the bimanual method of compressing the uterus for post-partum hæmorrhage shows the left hand on the fundus as it should be, but the thumb of the right hand appears to be outside the vulva and the fingers of the right hand are apparently in the posterior *cul-de-sac*. A preferable plan is, we think, to

have the right hand or fist pressed up in the anterior fornix, while the left hand presses the body of the uterus down on it. We think that, as a whole, the work may be considered as a satisfactory exposition of modern midwifery which does credit to the author's industry and research. The points to which we have referred and some omissions can be easily corrected when the author brings out a new edition. We see the word "dilation" used over and over again as synonymous with "dilatation." It is, no doubt, quite legitimate to use it in this sense, but the author frequently uses the word "dilatation" also; it would have been better, we think, to use one of these words exclusively rather than both if the sense intended is the same—particularly as "dilation" may mean "delay." Again, more than once we notice "ciliæ," which is surely not the correct plural of cilium.

LIBRARY TABLE.

Æther: its Nature and Place in the Universe. By HUGH WOODS, M.D. Dub., F.C.S. London: The Medical Magazine Publishing Company, Limited. 1898. Pp. 6.—The author of this pamphlet may be complimented on the courage which has enabled him to publish a new hypothesis relative to the planetary motions. His suggestion is that they are caused by "whirls" in the æther, by which latter term he must mean something not quite the same as the æther postulated for the purpose of completing the vibration theory of light, for the æther contemplated by him seems not only to possess the attributes of density, viscosity, &c., but to be capable of moving in currents in different directions and of exerting mechanical force. The hypothesis of molecular revolution holds a time-honoured place in the history of speculation as to the essential qualities of matter, especially in the explanation of the changes of volume due to changes of temperature, but astronomers will not improbably find Dr. Woods's views more difficult of comprehension than the Newtonian theory of gravitation on which he is endeavouring to improve. It might be thought, for instance, that on Dr. Woods's hypothesis the orbital motion and the rotation of the earth must be produced by one and the same "whirl" or eddy in his æther. If so, how does it happen that the orbital motion is variable while the rotation is uniform and performed round an axis approximately parallel to a fixed line inclined at a considerable angle (23½°) to the plane of the orbit?

The Annual Charities Register and Digest for 1898. London: Longmans, Green, and Co. Price 4*s.*—The especial feature of the new "Register," as of previous issues, is the lengthy introduction by Mr. Loch, of the Charity Organisation Society, dealing with the various methods (legal and voluntary) at work for the prevention and relief of distress and the improvement of the condition of the poor. Several additions embracing recent legislation have been made and there are also special introductions to the various sections or groups of charities written by those having particular knowledge of the individual section—that, for instance, on Lunatics, Idiots, and Imbeciles, being by Dr. Henry Rayner; that on Inebriates by Dr. Norman Kerr; and that on Shelters by Dr. F. J. Waldo, whose views generally on this latter subject were concisely set forth in THE LANCET of Aug. 3rd, 1896, at page 430. The Charities Register is especially valuable to all who are engaged in any way in philanthropic work.

Who's Who? 1898. London: A. and C. Black. Price 3*s.* 6*d.* net.—There are some new features in the current issue of "Who's Who," notably a table of how to pronounce peculiar proper names, a table which will doubtless be useful to a certain class. Surely, though, it is unnecessary to inform people that Warwick is pronounced "Worrick." There is a quantity of useful matter in the book and if the biographies were reduced in number considerably and a good many minor details omitted the work would be increased in value. We may suggest to the editor that a useful addition would be a list of coroners.

A Compendium of General Botany. By Dr. MAX WESTERMAIER. Translated by Dr. ALBERT SCHNEIDER. New York: John Welby and Sons. London: Chapman and Hall, Limited. Price 8*s.* 6*d.*—This book—a compendium of general botany—is a textbook intended for the use of students who have already obtained a preliminary knowledge of the more elementary principles of botany, chemistry, and physics. It is arranged in six divisions which deal respectively with the Cell, Tissues and Simple Organs, Organs and Systems of Organs, Reproduction, General Chemistry, and Physics of Plant Life. It is written in an interesting and scientific style and the different conflicting theories with regard to various subjects are fully discussed as they arise, and in many cases a short analysis is made of the chief points at variance, so that the student, understanding both sides of the question, may weigh the evidence for himself and arrive at his own conclusions. The illustrations (one hundred and seventy-one in number) are admirably executed. The references are also very numerous. This book should prove useful to those who are studying the subject for pleasure and also to those who have an examination in view.

Dublin Journal of Medical Science.—The original communications are on Laryngeal Necrosis in Enteric Fever, by Sir George Duffey; on a New Method of Nephrectomy, by Mr. J. S. M'Ardle; and on Laparotomy for Acute Suppurative Peritonitis, by Dr. J. R. Wallace. A short article in the "Periscope" discusses a question raised in the *New York Medical Journal* of Feb. 5th—namely, whether the adjective denoting contracted pupil should be spelt "meiotic" or "myotic." The American writer prefers "meiotic" (from μείωσις, diminution, and μειωτικός, diminishing), arguing that there are no such words in Greek as μύωσις or μυωτικός, although μύω (to close the eyes) and μύωψ (short-sighted) are, of course, well known. He says that meiotics have nothing to do with short-sightedness or with closing the lids (which latter is the primary meaning of μύωψ); their action is to cause diminution (μείωσις) of the size of the pupil. The author of the article in the Dublin journal admits that the American critic is etymologically quite correct and that the current English words "myotic" and "myosis" rest on a false analogy, but he thinks that custom has rendered it difficult to give them up in favour of "meiotic" (or "miotic") and "meiosis" (or "miosis").

New Inventions.

A NEW BICYCLE SADDLE.

THE accompanying illustration shows a form of saddle which has been invented by Mr. Walter Wiglesworth, L.R.C.P., L.R.C.S. Edin., with the object of affording a firm seat for the rider and of preventing perineal pressure. As will be seen the saddle is C-shaped, the opening in front giving a free space for the perineum, while the C-shaped band forms a resting-place for the ischial tuberosities. The framework of the saddle (which can be tilted to any angle) is constructed of aluminium or vulcanite, and the seat is composed of a removable cork or hair pad according to the fancy of the rider. The saddle is made both with and without a peak, the former form being for those riders who from long continued use of the ordinary saddle find it difficult to use a peakless one without a little practice. Theoretically the saddle is anatomically correct in construction, and the tests to which we have put it confirm the theory in practice.

THE LANCET.

LONDON: SATURDAY, MARCH 19, 1898.

FROM the first moment that the intelligence reached this country of the outbreak of bubonic plague in Bombay we stated that we regarded it as a most serious matter. We need scarcely add that the subsequent history of the epidemic has tended to strengthen our opinion in this respect. India has indeed been sorely tried. Plague and pestilence following famine and supplemented by war and sedition have left nothing to be added to the list of disasters that can afflict any country. The revolt of the border tribes and the consequent war on the frontier of India, together with the loss of life and the drain entailed upon the Indian Exchequer, have given rise to a good deal of anxious interest, not unmixed with misgiving, as to what was to be our future policy in regard to the tribes occupying the large belt of borderland between India and Afghanistan. But we have always held and contended that by far the most serious difficulty which confronted the Indian Government was the plague. To deal with it by the radical methods which Western civilisation, science, and experience indicate as the only logical methods of procedure was to bring us into direct antagonism with Oriental traditions and prejudices. The teeming native populations of India are, as a whole, law-abiding, docile, and easily governed so long as their social and religious systems and their caste traditions are not interfered with. But their standards are not our standards: they are intensely conservative and naturally enough will not tolerate the imposition of methods of procedure which are altogether antagonistic to their strongest sentiments. They would infinitely prefer to be left alone and would uncomplainingly encounter the risk of being attacked by plague or any other disease rather than submit to any interference with their domestic and family ties and to the severe measures declared by sanitary and medical science to be imperatively required for their safety. Nor is this to be wondered at. They share these feelings in common with a large number of people outside India. It is the knowledge of these prejudices, a knowledge shared among all Indian officials, whether civil, military, or medical, which renders them so cautious in enforcing hygienic or sanitary measures at variance with the caste prejudices of the native population. It is all very well, they tell us in effect, for some sanitarian fresh from this country to point out evils and to suggest remedies for their removal, but to officials and residents in India other considerations present themselves. They have to be very careful lest in remedying some evil a worse one happens to them. It is in this respect that the recent riots in Bombay have so much and such serious significance. The unfortunate natives are simply dominated by fear to a large extent; they see around them the dire effects of an epidemic disease with which the Government has not been able to cope successfully up to the present time, and for which the remedies appear to their superstitious imaginations as even worse than the disease.

"What is to be done?" There are logical methods of procedure for stamping out disease which are so utterly opposed to all considerations of humanity and morality that it is only necessary to state them in order that they should be rejected. To begin with, human beings obviously cannot be treated as cattle. The measures, for example, which were proposed by a Royal Commission and by the late Sir RICHARD QUAIN to be applied in the case of cattle plague—namely, to prevent all movement of the infected animals, to destroy those already affected, to bury their bodies in quicklime, and to disinfect all their belongings—cannot be had recourse to in the case of human beings. Very few people, we imagine, would have the temerity to contend that we have nothing to do with the treatment of the diseases of the natives and should be content to leave them severely alone when attacked by plague, only surrounding their dwellings by a military or police cordon as a safeguard against the spread of contagion to the population outside.

We cannot fail to recognise the extreme difficulties of the situation by which the Governor and the officials of Bombay are beset at the present time. What is their best course? Let it be granted that epidemic diseases depend upon a cause—in most cases upon a living micro-organism as in the case of plague—and upon the presence of a number of environing conditions favourable to their development. In other words, the pathogenic germ requires, as in the case of certain other seeds, a muckheap for its growth. All efforts must consequently be made in two directions: on the one hand, to prevent or limit the spread of the disease-cause and, on the other, to alter or remove the conditions favourable to its existence. In many cases it is perhaps easier to accomplish the latter of these two, but in either case time is an important element. To limit the spread of a contagious disease with the object of stamping it out the steps taken must manifestly be taken promptly and before the disease has become widely disseminated. There is not time in the case of an epidemic to carry out those sanitary measures which should have been taken in anticipation of its occurrence, for the disease spreads too fast to be overtaken.

The searching out and the segregation of the sick are clearly the first and most direct steps to be undertaken; but this, unhappily, in the case of the natives of India, whether Hindu or Mahommedan, brings the governors in direct conflict with the governed. It follows that information should first of all be obtained from native representatives as to how much can be reasonably and safely done in this direction without arousing the greatest opposition, and every attempt should then be made to enlist the aid of the more enlightened natives as sanitary missionaries in advocating and carrying out what has been determined upon. Once this point has been settled and the authorities have put their hands to the plough there must, in the interest alike of the natives, the whole country, and the Government, be no looking back. It goes without saying that as many natives as possible

should be enlisted to work on search parties and to take part in all plague procedures. It is not only the segregation of those actually sick, but the provision of rest camps on good, open, clean sites for the accommodation of those resident in infected dwellings and districts that is required. Not only must the overcrowded tenement dwellings be vacated, but it would be far better in the end to destroy at once a number of the infected buildings by fire and subject the soil on which they stood as well as that of infected districts to a process of burning. A veritable plague epidemic, once it has taken root, has a life of its own and a much longer one than is commonly supposed. This can only be due to the fact that its specific cause gets implanted in the soil and surroundings to become active and revivified on the recurrence or in the presence of favouring conditions. The soil requires to be burned; crowded thoroughfares must be opened out to the sun and wind, and for these purposes fire is the most speedy and effectual agent. The subsoil drainage also requires to be improved and those sanitary measures which are of proved value in all epidemic diseases should be likewise carried out. We do not by any means undervalue the importance of measures for preventing the spread of infection, but these should go hand-in-hand with those of a sanitary nature.

THE death of Sir RICHARD QUAIN removes one of the most familiar figures from the medical world of London. He had that gift of continuity in performance which is an element of greatness. Generations came and went in the time covered by the active life of Sir RICHARD QUAIN and he continued still to be the same. Popularity, prosperity, wealth, and a baronetcy made no essential difference to his intense, jovial, pugnacious attitude towards life. Other rivals appeared on the scene in more or less damaging competition with his objects, and perhaps left behind them work more deep and permanent in the history of medical science—but they departed and he remained. The competitors had a limited and a special reputation, but he was the general physician who was available for all patients and for all diseases—"Dr. QUAIN, of Harley-street." Critics attributed selfish designs and motives to this ubiquitous and continuous factor in the profession and its politics, but he held his own and went on according to his lights; and secure in the manifold points of vantage which his position gave him did what he thought right with admirable persistence. For half a century he was the physician of "Society," especially in its upper strata and its literary and artistic circles. His patients were legion and included the most influential men of their day—men like the late Mr. DELANE of the *Times*, Mr. CARLYLE, and Lord BEACONSFIELD. Such patients gave him access to other no less eminent men who became his friends, with whom he had more or less easy and frequent intercourse, and who came to regard him as a representative exponent of professional opinion. Such regard was confirmed by his accession to one after another of the academic and professional offices to which he was elected in the University of London, the Royal College of Physicians of London, and the General Medical Council, in all of which bodies he played a useful as well as a conspicuous part. He failed in the attainment of one great object of his ambition, the Presidency of the Royal College of Physicians of London; and there is no doubt that this was the source of great disappointment to him, not the less so because he so nearly succeeded.

It becomes interesting to inquire what were the secrets of such prosperity and success. Such an inquiry is always a difficult one. Dr. JOHNSON in his Life of AKENSIDE says very truly: "A physician in a great city seems to be the mere plaything of fortune; his degree of reputation is for the most part totally casual; they that employ him know not his excellence; they that reject him know not his deficience. By any acute observer who had looked on the transactions of the medical world for half a century a very curious book might be written on the 'Fortune of Physicians.'" Without endorsing this severe reflection on the worthlessnes of the judgment of the public on the merits of its physicians it is not difficult to explain the popularity and the influence of Sir RICHARD QUAIN. For one thing he had a splendid constitution. He seemed the youngest old man of our acquaintance. The history of his health was remarkable as was his independence of the art which he practised so successfully. Not until very recent years was he seriously in need of its assistance; and, after all, fifty or sixty years of laborious and responsible medical life can scarcely be borne without the physical basis of a sound constitution. Then his mental constitution and his genial temperament were eminently fitted for the work of successful practice. He was ready and practical in his estimate of disease and of its remedies. He was in sympathy with the deeper study of disease; he was, indeed, one of the founders of the Pathological Society—the only surviving one able to be present at its fiftieth anniversary in 1896; he studied deep tissue changes and their significance as in the cardiac work with which his name is associated. But his views of disease and its treatment were mainly of the practical sort. He began life as the pupil of an apothecary and for that branch of the profession he retained great respect and sympathy to the end of his days and on suitable occasions he gave very practical and eloquent expression to his sentiments. Sir RICHARD QUAIN was for several years resident physician in University College Hospital. And his contemporaries or juniors of that date testify to the respect in which he was held by all the resident staff and to the admirable way in which he did his responsible work. Such a training confirmed the practical turn of his mind and led him to the study of patients as well as of disease. He was besides cheerful and kindly in dealing with the sick, and this had as much to do with his success as a physician as the really deep views of pathology which a fine brain enabled him to grasp.

Any estimate of Sir RICHARD QUAIN would be incomplete which did not take into account the enormous amount of work which he did in public bodies. Some may think that this interfered too much with time that ought to be given by a leading physician to the study of his profession, but this would be a narrow judgment. His business was with disease in its practical aspects and with the world as he found it. And in the various offices he filled, notably

as President of the General Medical Council, he had the power in various ways to advance the cause of medical education, the harmony of medical bodies, and the respect of public men for the profession. These things constitute no light claim upon the medical profession and ensure for Sir RICHARD QUAIN'S memory feelings of respectful as well as affectionate regret.

THE Prisons Bill which has passed the first reading in the House of Commons is designed to make certain amendments as a preliminary to their general consolidation in the laws relating to prisons. The aim of the new Act is to render the prison system more elastic and to bring the treatment of the criminal more in accordance with modern ideas. With this view a new code of rules has been drafted which will, we are sure, meet with general assent. The old rules framed under the Act of 1865 for the administration of local prisons have, from their stringent and unyielding character, proved an obstacle in the path of progress, and have contributed to seriously hamper the action of the Prison Commissioners, whose efforts to improve the mental and physical condition of the criminals under their charge found adequate expression in their last report. Under the new rules special importance is attached to the question of the treatment of juvenile criminals. The methods which it is proposed to employ in attempting to rescue these juveniles from lapsing into crime consist in an efficient system of classification and of entire separation from older offenders. Moral education and industrial occupation will be features of the scheme. Such prisoners are to have their cell doors open in certain cases in order that confinement may be rendered as little oppressive as possible. Extra visits from their friends will be allowed, providing those visits have an improving end. Physical drill is included with the view of improving their physical development. This we look upon as the most important step of all, and we should be glad to see provision made for extending this physical drill to all prisoners under the age of forty years. The average criminal is deficient in muscular development; more especially is this physical deficiency, and consequent loss of resisting power, found in the respiratory apparatus—imperfectly developed chests and stooping shoulders are common amongst the inmates of prisons. The purpose of physical drill is to repair and fit the organism for the performance of its normal and healthy functions, thereby increasing the amount of nervous energy and consequently strengthening the character. The mental deterioration so frequently found in a greater or lesser degree amongst criminals is more directly dependent on a depraved habit of body than on other causes, such as their prison surroundings, to which mental disease is so frequently, yet erroneously, ascribed.

For the general body of prisoners provision is to be made in every prison for the teaching of reading, writing and arithmetic, and proficiency in learning will receive the same encouragement as proficiency in work. Considering that the Education Acts have been so long in force, the taxpayer may think it a hardship that he has to provide education twice for the same individual. There can be no doubt, however, that a considerable number of criminals of the present day are grossly ignorant. Another satisfactory feature of the new rules is that trades are to be taught more freely. There is room for improvement in this respect, and we hope that the day is not far distant when the antiquated and effete treadwheel will be abolished. A daily record of the industry of every prisoner is to be kept in marks, and the better he works the better will his position become; by good conduct and industry he will be enabled to gain remission of part of his sentence, as his fellow in the convict prisons does at present. In local prisons the powers and duties of the Visiting Committee have been enlarged to some extent, and it is proposed to establish a similar body in connexion with the convict prisons. There are many other indications which show that these rules have been framed in a broad and liberal spirit. We have sanguine hopes that their operation will be attended with good results in the case of juvenile and first offenders, and it will be interesting to note their effect on the habitual criminal. If by such agencies the hardened offender can be reclaimed and reformed a great end will have been achieved, but if the experiment should fail, it will be the duty of the law to protect society from his depredations and to prevent him becoming a focus of contamination for others. There can be no doubt that the grounds on which the new rules are based are right. The old idea of deterrence gives place to the new principle of reformation; encouragement is held out to those who have casually strayed from the path of rectitude, and the better instincts of the wrong-doer are appealed to in the hope of speedy amendment.

THE Vaccination Acts Amendment Bill was read a first time in the House of Commons on Tuesday last. Its provisions were tersely and lucidly expounded by Mr. CHAPLIN, the President of the Local Government Board, and it will be seen that they follow mainly the recommendations of the Royal Commission on Vaccination. The most radical change proposed is the abandonment of arm-to-arm vaccination and the substitution for it of vaccination with glycerinated calf lymph. Mr. CHAPLIN told the House how this method of imparting vaccinia brought about security from possible risk of inoculation of other morbific germs and emphasised the value of the discovery that admixture of the lymph with glycerine destroys all extraneous microbes without impairing the vaccinal activity of the lymph. The success attending the method in large continental cities amply justifies its adoption in this country. The revolution thus introduced in our vaccination system is marked, since no parent is in future to be bound to submit his child to vaccination by any other means than calf lymph; and, further, only calf lymph vaccinations will be recognised in the compulsory enforcement of vaccination. There will thus have to be made considerable changes in the National Vaccine Establishment to meet the demand for the new supplies of lymph. The introduction of calf lymph vaccination renders the system of vaccine "stations" unnecessary, for their establishment was an essential requisite when a common meeting-place of vaccinifers and vaccinees had to be found. In future,

therefore, vaccination is to be domiciliary, a plan which has long worked well in Scotland. In these two respects the Government have adopted the recommendations of the Commission, as also they have done in the extension of the statutory age limit from three to twelve months.

It is easy to see that sound objections can be found to each and all of these changes, but it must be remembered that they are the outcome of the deliberations of a Commission that sat for an unexampled length of time and thoroughly sifted evidence adduced from all sources. The primary object of such changes undoubtedly is to minimise the risks attendant on vaccination and thus to allay the fears of those who shrink from exposing their children to them, and no one can honestly assert that most of those risks are not avoidable. The clauses which are likely to give rise to grave differences of opinion are those which deal with penalties for non-compliance with the law. Here the Government have adopted the recommendation made by the Commission in their *ad interim* report, but have not given their adhesion to the suggestion made by the majority of the Commissioners in their final report. It will be remembered that it was there advised that those who had a conscientious objection to vaccination might be exempted from their legal obligations by making a statutory declaration of the grounds of their objection. Mr. CHAPLIN holds that such a proviso would make vaccination a dead letter, and we agree with him that it would be most disastrous if vaccination any considerable scale should fall into disuse. Yet in effect the abolition of repeated penalties will amount to much the same thing, for the conscientious objector will get relief by paying a fine instead of signing a paper. It might be urged that the penal enactment would have a more deterrent effect; but to this it might equally well be objected that the retention of a penal clause at all will only serve to keep up the strife that now exists, and that in these days penalties in matters of "conscience" (so-called) are somewhat of anachronisms. Nevertheless it must be admitted that compulsory legislation without compulsion is a paradox which cannot be suffered to continue, and we look to Parliament for a clear pronouncement on this point. The proposal will be regarded by some as a step towards the abrogation of all penalties and practically therefore of all compulsion in vaccination. Perhaps if the anti-vaccination party had been contented to have limited their efforts to that cause alone they might be stronger to-day than they are. But by endeavouring with futile clamour and rhetoric to disprove the efficacy of vaccination and by advancing the inutility of the practice as a ground for its abandonment by the State they have alienated many who on general ethical grounds may object to enforce upon unwilling people even the most beneficial of measures. We believe that the Government in their proposals have done much to remove reasonable objections to the practice of vaccination and that they realise what the abandonment of the practice would entail; and yet, we fear, their well-meant endeavours to facilitate the adoption of universal vaccination are likely to be thwarted in the future, as in the past, by erroneous ideas as to liberty coupled with the propagation of even more erroneous doctrines concerning small-pox and vaccinia.

We observe that no mention was made by Mr. CHAPLIN of the transfer of the vaccination authority from the boards of guardians to the sanitary boards, which was a short time since said to be in contemplation. The Royal Commission referred to the desirability of such a change, but did not go so far as to embody it in a distinct recommendation, owing to the difficulties of administration in the numerous sanitary districts. We trust, however, that the Government have been considering such a reform and that they will see their way to carry it out.

Annotations.

"Ne quid nimis."

THE GOVERNMENT AND THE NEW FOOD BILL.

WE very much doubt whether, after all, the Government mean to introduce a new Bill which will embody to any extent the recommendations of the Select Committee. We were convinced over a year ago that the recommendations of the Select Committee on Food Products Adulteration were such as were not calculated to expedite the passing of a measure on the bases suggested. As Mr. Balfour then said, the subject was one of great difficulty and complexity, and we remarked in our issue of Jan. 30th, 1897, that while we regretted the delay of a new Act being introduced for the more satisfactory suppression of food adulteration, "yet it is obvious that a drastic measure of this kind might lead to disastrous results if unduly hurried through the legislative machine." It must not be forgotten that a new measure must be fair both to the trader and to the public. At a deputation of the Federation of Grocers' Associations of the United Kingdom received by Mr. Chaplin, M.P. (President of the Local Government Board), Mr. T. W. Russell, M.P. (Parliamentary Secretary), and Sir Hugh Owen (Permanent Secretary) on the 11th inst., the replies given by Mr. Chaplin certainly did not indicate that any clear line of action had been decided upon. Thus he pointed out that there was an extraordinary diversity of opinion on the subject, not only between the Parliamentary Committee and the representatives of the deputation, but amongst the associations themselves, for they did not all agree with the recommendations of the Committee though to a certain extent they did. In proof of this Mr. Chaplin quoted a point in the Committee's recommendation to which more importance was attached than any other, and that was that the colouring and mixing of margarine should be prohibited. On this point there was not only an entire divergence of opinion between the Committee and the Federation but amongst the grocers themselves. In regard to the court of reference suggested by the Committee Mr. Chaplin could not quite see what were to be its functions and as to whether they were to deal with certain kinds of food or with all kinds. This seems to us a very lame point, as of course the court should deal with all kinds. Equally superfluous was it to express doubt as to whether the judgment of the court of reference was to be independent or its decision was to be binding in law. We take it that the decision of the court is for the guidance of the magistrate, who frequently knows little or nothing in a case of the technical questions at issue. We admit the great difficulties that must be met with in drawing up a satisfactory measure, but at the same time we cannot refrain from expressing the opinion that a new measure is

very desirable if fraud is to be successfully dealt with and if the public are to be adequately protected against the subtle tricks of a great number of tradesmen and especially of those who sell articles of food in the poorer districts of our towns. In the interests of the public some new steps must be taken and we hope the Government will soon be convinced of this and will provide a satisfactory amendment to the present Acts.

THE CAMBRIDGE EXPEDITION TO TORRES STRAITS.

ON March 10th there left England for Torres Straits the first exploring expedition sent out by a university. The chief of the expedition is Dr. A. H. Haddon, Lecturer on Anthropology at the University of Cambridge, and there accompany him Dr. W. McDougall, of St. Thomas's Hospital; Mr. C. S. Myers, of St. Bartholomew's Hospital; Dr. Rivers, the Lecturer on Experimental Psychology at Cambridge; Mr. C. G. Seligmann, of St. Thomas's Hospital; Mr. S. H. Ray, who has an extensive knowledge of Polynesian languages; and Mr. A. Wilkin, of King's College, Cambridge. Dr. Haddon will look after the subjects of folk lore and decorative arts, while Mr. Myers will study native music. Besides Torres Straits, Borneo and New Guinea will also be visited and the expedition are taking a phonograph and a kinematograph, so as to be able to bring back records of songs, dances, and the like. Altogether the expedition will be away some fifteen months. The report of the members when they return should be of absorbing interest, for the part of the world to which they are going is one of the very few now existing which is free from the coöperative educational tourist. The Torres Straits man is still fairly primitive and, luckily for himself, many of the blessings of civilisation are still unknown to him.

TYPEWRITERS' CRAMP.

SUFFERERS from writers' cramp are, in the majority of cases, quite able to produce manuscript by means of a typewriting machine, but an instance in which this resource failed is recorded by Dr. F. Hampson Simpson in the current number of the *Birmingham Medical Review*. He states that he is not acquainted with any authentic record of a similar case, although he has recently met with two examples of what was called typewriters' cramp; one of these patients, however, seemed to suffer from neuritis and the other from pain and fatigue in the right hand unaccompanied by muscular weakness or spasm. The patient whose symptoms Dr. Simpson describes is at present a muscular man, thirty-three years of age. He became a clerk when eighteen years old and then wrote with a pen on an average from seven to eight hours daily. In March, 1889—that is, after about seven years of this employment—the initial symptoms of writers' cramp declared themselves and at the end of three months all the fingers of the right hand were invaded by spasm, which seriously interfered with writing. In 1889 he learned to use the typewriting machine and in 1890 he commenced learning to play the harp, but after a few months he found that playing brought on cramp, affecting the right hand generally, more especially the first and second fingers, so that he gave up the harp at the end of 1890. For three years (1893-94-95) he was at sea as interpreter on board a transatlantic steamer. In January, 1897, he entered an office as typewriter, but was only engaged in working the machine from two to three hours daily. Towards the close of one of the days at the end of February, whilst at work "typing," his right index finger became bent by cramp. From this time on, a repetition of the cramp occurred towards the evening of each day, a slight involuntary flexion at the wrist being superadded, and in less than a month the exaggeration of the spasm led him to substitute the middle for the index finger; six or seven days later this middle finger also became the seat of similar spasm. Dr. Simpson observed very little tendency to spasm in the operating finger of the right hand during the early portion of a day's work, but after about two or three hours' typing the index finger of the right hand (and the middle finger since its substitution) became very fatigued and to the flexion of the finger and wrist incidental to striking the keys there was superadded a spasmodic contraction which overflexed those parts. This did not appear, however, to seriously impair the precision of his touch and an inspection of his type-written work revealed no objective evidence of the spasm in the right finger. It was suggested that he should strike the keys with a little hammer or percussor and he employed this with much benefit and relief for some little time, but the cramp now affects the whole forearm and he intends to abandon his present occupation for another of a totally different description. He has been a pianist for many years and his piano-playing is not in the least interfered with by any digital spasm; his technique and execution are above the average and his prestissimo passages are perfect.

PROPOSED CENTRAL HOSPITAL BOARD.

AT a recent meeting the Executive Committee for the Promotion of a Central Hospital Board for London passed a resolution asking the secretary to prepare for the consideration of the General Committee and for discussion at a public meeting of persons interested, a memorandum regarding the hospitals of London and bearing on the question of hospital reform and the constitution of a Central Hospital Board. It must be recognised that there have been many meetings on this subject of late which do not seem to have advanced the views of the promoters and that the decision of the council of the Prince of Wales's Hospital Fund is discouraging. The hospitals all profess to recognise the need of reform and some of them seem in earnest to set about it. The Prince of Wales has given the public to understand that his Fund will only help well-managed hospitals and the Hospital Sunday Fund has begun to show some sense of responsibility in this matter. There is something to be said in favour of leaving for the present the further discussion of the creation of a central board in the hope that these large contributing bodies will perhaps do the work that needs to be done. Certainly it is in the interest of the voluntary hospitals themselves that great reforms of administration should be accomplished without delay.

RETRO-PHARYNGEAL ABSCESS WITH UNUSUAL COMPLICATIONS.

AN interesting case is reported by Dr. Melvin M. Franklin, of New York, in the *Medical News* (New York) of Feb. 19th of this year. The patient was a child aged seven years, and was first found to be suffering from sore-throat. The following day Dr. Franklin was suddenly summoned and he found the patient in a state of collapse, with blood flowing from the mouth and nose. Stimulants (strychnia and atropine) were given. Closer examination revealed a pulsating swelling in the left side of the neck. Ice and pressure were applied and a pint of saline infusion was administered subcutaneously. After this the child's head was gently raised and the mouth was opened, when blood was seen gushing from a point posterior to the left tonsillar pillar. With the view of applying pressure internally a soft catheter was introduced through the anterior and brought out of the posterior nares and a large piece of sponge was pulled tightly into the vault of

the pharynx. The child rallied, but in a few hours aphasia developed together with paralysis of the right side of the face and the right arm. The paralysis increased until there were complete loss of sensibility and power of movement in the entire right side of the body. The temperature rose to 101°F. For three days the general condition remained stationary, though the tumour in the side of the neck gradually disappeared. At the end of this time the nasal plugs were removed, after which there was some slight hæmorrhage, but this was readily controlled by the use of local hæmostatics. In the course of a month the child was able to be about but could not walk unaided. Several months elapsed, however, before articulation was properly performed. A year later the patient had completely recovered the power of speech and suffered only from slight disability in the use of the right arm and talipes equinovarus, the latter being relieved by the use of proper apparatus. In his remarks on the case Dr. Franklin considers that it is only necessary to glance at the subsequent symptoms to confirm his first diagnosis of ulceration into the left internal carotid artery; for, explained in any other way, the case becomes a most remarkable pathological coincidence. Whether or not the paralysis was embolic in nature or due to cortical hæmorrhage or thrombosis is certainly difficult to determine, but Dr. Franklin maintains that without a previous constitutional diathesis it is most likely in a child to have been caused by an embolus of the middle cerebral artery—a terminal branch of the internal carotid.

THE POSSESSION OF DISEASED MEAT.

ON Feb. 24th the stipendiary magistrate of Bradford was engaged in hearing a very important case. Mr. Albert Rendell, a draper, of the "Trimming Shop," Kirkgate, and Eldon Lodge, Bradford, was charged at the instance of the Bradford Corporation, under Sections 116, 117, and 118 of the Public Health Act of 1875, with having in his possession and intended for sale meat unfit for human food. William Hemmingway, meat inspector, said that on Jan. 27th he inspected certain meat in the meat-store at Eldon Lodge. Part of this meat consisted of the carcases of two sheep dressed for human food in the way in which butchers usually dressed them. One sheep was unfit for food, the meat being soft and wet. He asked Mr. Rendell to let him see the internal organs of both sheep and the skins, but the lungs and heart which were shown him did not belong to the carcase seized but to a sound animal. One lung and a heart were missing and Mr. Rendell gave no explanation of their absence. The skin of the carcase in question was unhealthy. Dr. W. A. Evans, the medical officer of health, gave evidence to the effect that the carcase was quite unsound. In his opinion the animal must have been in a dying condition when killed. Mr. Thomas Collins, M.R.C.V.S., Government inspector of cattle disease for the district, and Mr. John Harrison, a butcher, also gave evidence to the same effect. On the other hand, Mr. William Rendell, the defendant's bailiff, the labourer who had killed the sheep, Mr. Charles Drabble, M.R.C.V.S., and Mr. H. Newsholme, M.R.C.V.S., all gave it as their opinion that the meat was quite sound, Mr. Rendell adding that the sheep had no sign of disease while alive. The stipendiary gave judgment on March 1st. He found that the carcase in question had been legally seized, that it was intended for the food of man, and was unfit for food; but it was not exposed for sale, or deposited for sale, or for preparation for sale. In the case of Mallinson *v.* Carr, Mr. Justice Stephens, Mr. Justice Hawkins agreeing, had stated that exposure for sale was not a necessary ingredient of the offence; knowledge of unfitness for food was immaterial. The defendant would be fined £5 and £4 8*s.* costs or one month's imprisonment, but he (the stipendiary) would state a case for a higher court, for it seemed to him that the judgment of Mr. Justice Stephens and Mr. Justice Hawkins would enable an inspector to enter the private larder of any person and seize high or rotten mutton, game, cheese, &c. The point at issue is very important. It seems clear that in this case the meat was unwholesome and was intended for food, whether for the defendant's family or for his assistants at the "Trimming Shop" does not much matter. As to whether Mr. Albert Rendell did not know that the carcase had been dressed or was bad there is the legal dictum, "Qui facit per alium, facit per se"; his servant had killed and dressed the sheep, and as for not knowing, as Mr. Gilbert's *Mikado* observed, "There's not a word about a mistake or not knowing or having no notion. ..... That's the slovenly way in which these Acts are drawn." We await the decision of the Higher Court with interest, but we may for the present take an ordinary common-sense view of the matter and ask, would anybody take the trouble to dress a carcase in the butchers' usual manner and hang it in his larder unless it were intended for human food? As for the argument about game and cheese, if people like putrefying meat or cheese that has to be kept in a cage they are at liberty to eat it, but that is a different matter from diseased meat or meat that is generally eaten fairly fresh but has been allowed to go putrid before sale.

BOARDS OF GUARDIANS AND PUBLIC VACCINATORS.

A MATTER of some importance to public vaccinators came before the Helston Board of Guardians at their meeting on Feb. 19th. As reported in the *Cornishman* of Feb. 24th Mr. Williams brought before the board the case of a man whose child had been vaccinated by the Townshend vaccination officer. "The child's arm was very bad and the doctor attended it four times. For this he had sent in a bill for £1 and he (Mr. Williams) believed if the amount was not paid immediately the man was to be taken to the court. ..... The man attended after the vaccination because the child had a dreadful arm." Canon Tyacke thought if the vaccination was done by the board's officer in the usual way that he would be bound to attend the case after. The chairman: "That is so." It was then decided to ask the medical man for an explanation. At the meeting held on March 5th, which was reported in the *Cornishman* of March 10th, a letter was read from Dr. Chown wherein he explained that he had vaccinated the child on Oct. 20th, 1897. The child was brought for inspection on Oct. 27th and the vaccination seemed to have been successful. A week later he was sent for to visit the child on account of an inflamed arm and for this and subsequent attendance he had sent in a bill for £1. He had never received any complaint from Mr. Curtis (the father of the child) or from anybody belonging to him. As for taking the man to the court there was not the slightest foundation for such a statement. Mr. Williams said the woman got hurried and paid the money and the man was down on his wife for doing it. The matter then dropped. Why this matter ever came before the guardians we cannot see. The legal responsibility of a public vaccinator ends, as Dr. Chown told the board, with the inspection of the arm on the eighth day. Dr. Chown was called in as a private practitioner, for both Canon Tyacke and the chairman were wrong in thinking that a public vaccinator is bound to attend a child gratuitously for illness after vaccination. So much for Dr. Chown's legal position. From the point of view of professional custom, since some of the guardians seem to have thought that no charge ought to have been made, we think that the bill

was very reasonable. The amount was at the rate of 2*s.* 6*d.* per visit for a distance of over two miles and the inflammation was probably due to circumstances entirely outside the public vaccinator's control. No doubt Dr. Chown or any other medical man would have reduced or remitted the fees in the case of a poor person, but the father in this case is in regular work at good wages and the bill was paid without the least demur, no complaint was made to Dr. Chown, and only one to the guardians after a long interval. Vaccination, or anything to do with it or that happens after it, seems to act as a deliriant upon a certain class of mind.

A FELLOWSHIP IN MEDICINE.

THE authorities of Magdalen College, Oxford, have announced that they will shortly offer to Oxford graduates a Fellowship for proficiency in medical science. This is the second time that the claims of medicine have been recently recognised by Oxford colleges. On this occasion we are glad to observe that in the bestowal of this distinction regard will be had not merely to the attainments of the candidates as evidenced by the results of an examination, but also to whatever scientific work they may have been able to do for the advancement of physiology or pathology. We welcome this announcement as an evidence of the growing interest taken by Oxford in medical matters and trust that other Colleges may follow the example of Magdalen and Pembroke.

DEATH OF SIR HENRY BESSEMER.

A MAN whose influence has been great in favour of the commercial prosperity of this country has passed away this week in the person of Sir Henry Bessemer. His name will never be dissociated from steel, the improved manufacture and output of which placed this country in a position far in advance of its competitors. Bessemer steel is a remarkable product and when it is considered that it paves all the railroads of the world its influence upon the advance of civilisation may be to an extent gauged. Sir Henry Bessemer conceived the idea of forcing a blast of air through melted cast iron and removing by this means the carbon as gaseous carbonic acid and the silicon as solid oxide. The iron thus purified was next treated with a standard quantity of carbon and with some manganese, the result being steel of constant temper. The operation is carried out to the present day on an enormous scale. Sir Henry Bessemer died at his residence at Denmark-hill on Tuesday last. He was born on Jan. 19th, 1813, so that at the time of his death he was in his eighty-sixth year. His career was a most remarkable one and should form in course of time the subject of an excellent and interesting biography.

PRIMARY CANCER OF THE GALL-BLADDER.

A CASE of primary cancer of the gall-bladder is described by Dr. David Riesman in the Proceedings of the Pathological Society of Philadelphia of Oct. 28th, 1897. The interest attaching to an example of a somewhat unusual disease is here augmented by a suggestive study of its probable etiology. The patient was a woman, aged thirty-eight years, who died after exhibiting a series of gastro-hepatic symptoms. At the necropsy the gall-bladder was found to be contracted, with a much thickened but friable wall, and it contained a gall-stone. Secondary nodules were found in the liver, pancreas, lungs, and peritoneum, and the abdominal and mediastinal lymphatic glands were cancerous. The primary growth and also the secondary nodules showed the characters of cylindrical carcinoma. The gall-stone found in this case was the chief centre of interest, inasmuch as Dr. Riesman regarded it, not without reason, as the primary cause of the carcinoma, which he attributed to the mechanical irritation caused by the stone. In support of this view he referred to the observations of Musser [1] and Siegert, [2] who had found gall-stones in 69 and 95 per cent. respectively of cases of this disease reported by them.

LORD SALISBURY'S ILLNESS.

WE understand that on Saturday, the 12th inst., the Premier, who had been recovering satisfactorily, had a serious relapse with return of fever in consequence of the fatigue involved by his attendance at the Cabinet Council held on the previous day. On Monday, however, he was so much better that Lady Salisbury was able to proceed on her journey to the South of France on Tuesday as had been arranged. It is hoped that Lord Salisbury will be able to join her at Beaulieu next week, but his convalescence is slow owing to the pressure of State affairs.

THE TESTIMONIAL TO DR. ARLIDGE.

As will be seen by a letter which we print in another column from Dr. C. F. Moore, a testimonial has been presented to Dr. J. T. Arlidge in recognition of his arduous and devoted professional work in promoting the health of factory operatives. Dr. Arlidge has been for thirty-five years physician in honorary or consulting capacity to the North Staffordshire Infirmary, and during that period he has taken a warm and unswerving interest in the welfare of all engaged in injurious trades (for example, in pottery works), and it is fitting that the labours of his life should be recognised by the medical profession at the time when his health precludes him from continuing them. We join with the subscribers to the testimonial in wishing Dr. Arlidge a recovery of health with which to enjoy many years of well-earned leisure.

THE PRESCRIBING DRUGGIST AGAIN.

AN inquest was recently held at Derby upon the body of a woman, aged seventy-five years, who died primarily from pneumonia, but in whom there also existed chronic Bright's disease and arterio-sclerosis. The chief interest in the case, however, was the fact that just previously to her death she had taken sixpennyworth of cough mixture because "she did not believe in doctors." Dr. Gibbons, who was called in at the last, found her under the influence of some narcotic, which he said had hastened her death. At the inquest Mr. C. W. Booth said that the cough mixture which the deceased had taken was a preparation of his own and he did not want the formula to become public property. He was directed, however, to write it down for the benefit of the jury. Two ounces of the mixture contained forty minims of morphia besides compound tincture of camphor and the dose for an adult was one teaspoonful. We do not quite understand what is meant by minims of morphia, but supposing that the pharmacopœial liquor morphinæ acetatis or hydrochloratis is meant the amount in the prescribed dose would be about 2½ minims. This is not excess, it is true, but the fact remains that no unqualified person should be allowed to prescribe such powerful drugs and in addition to the morphia the presence of the opium in the compound tincture of camphor must be taken into consideration. Mr. Booth's methods were peculiar. It is true that he inquired whether the patient was an adult, but there were no directions on the bottle as to how often the mixture was to be taken. He left that to the common sense of the public. He never put a poison label on the bottle nor did he enter the sale in a book. He was not compelled to

[1] Transactions of the Association of American Physicians, 1889, vol. iv.
[2] Virchow's Archiv, 1893, 132, p. 353.

do so because morphia did not come within Schedule A of the Pharmacy Act. The coroner did not agree and the witness at length allowed that he was wrong. The jury returned a verdict that the deceased died from pneumonia and strongly censured Mr. Booth.

THE LONDON UNIVERSITY COMMISSION BILL.

THE Standing Committee of the House of Lords met on Tuesday, March 15th, with Lord Herschell in the chair, to consider the Bill for the reconstruction of London University. On the motion of the Duke of Devonshire the names of Lord Davey, the Bishop of London, Sir William Roberts, M.D. Lond., Sir Owen Roberts, Professor R. C. Jebb, M.P., Professor Michael Foster, M.D. Lond., and Mr. E. H. Busk were inserted in Clause 1 of the Bill as Commissioners. The names, it will be seen, are the same as those in last year's Bill, with the exception that Lord Lister gives place to Professor Michael Foster.

THE MANCHESTER AND SALFORD HOSPITALS INQUIRY ASSOCIATION.

THIS association held a meeting on Feb. 24th to receive the report of a sub-committee which had drawn up various suggestions and resolutions. These suggestions were mainly directed towards the obtaining of sundry information as to hospital management and administration, but one of them, No. 3, ran as follows: "That the committee should discuss the right view of the aim and intention of a hospital in relation to the admission of patients—i.e., 'the ideal hospital patient.'" We should think that this discussion must have been most interesting. A patient can be ideal from so many points of view. From that of the secretary in an unendowed hospital he is the patient who only stays in for one night. Thus he does his share in "getting up the numbers" and does not cost the institution much. From the house surgeon's view the ideal patient is one who is fairly clean, civil-spoken, and grateful. To their credit be it said, most hospital patients come under this head. We fear that the ideal patient from every point of view will but rarely be found. But it is a good sign that an association has been formed to look after the use or abuse of hospitals, for no one can doubt that they are abused. It will be a long time before hospitals are brought back to their original and intended use of being simply places for the relief of the sick and needy; but in the meantime we can only wish every success to those associations which have commenced the arduous and in many ways disagreeable work of trying to remedy abuses.

LEGALISED QUACKERY.

A BILL has recently been introduced into the legislature of New York State having for its object the legalisation of the practice of "osteopathy." Last year bills of a like nature were passed in the States of South Dakota, Colorado and Illinois, but were rendered nugatory by the respective governors of those states refusing to affix their signatures. It will also be remembered—reference was made to the subject in a leading article in THE LANCET of Sept. 4th, 1897, p. 607—that during last summer a professor of "osteopathy" was prosecuted in Kentucky for practising medicine within the meaning of the Act. In that case the judge held that the charge was proved and the court ruled "that any person who for compensation proposes to apply any science which relates to the prevention, cure, or alleviation of the diseases of the human body is practising medicine within the meaning of the Statute." The *New York Medical Record* of March 6th, in an editorial article on "osteopathy," referring to the action of Kentucky says: "It would be well and in the best interests of the medical profession and the general public if this State were to follow the lead of Kentucky in her broad interpretation of the laws regulating the practice of medicine. Strenuous efforts should be made to nip in the bud this attempt to legalise the practice of osteopathy." That such a bill should have been even introduced in New York State, which has been the pioneer in medical reform, is regarded by the profession as an act of great audacity. The Medical Society of the State will defend the interests of the medical practitioners. It may be said that within the past few years this society has proceeded successfully against upwards of eighty persons who have broken the laws.

THE CERTIFYING OF LUNATICS.

DR. LOVELL DRAGE, the Hatfield coroner, recently held an inquest upon the body of a man, aged eighty-one years, which was found in a pond at Leverstock Green. Medical evidence was given by Dr. Hutchinson, of Hemel Hempstead, that there were no marks of violence on the body. The deceased's grand-daughter said that he had been quite childish for the last four years and that last year he had been certified as insane by a medical man, but a magistrate had refused to sign the order for his detention. The jury returned as their verdict: "Deceased walked into the Blackwater Pond, Leverstock Green, and was found drowned on March 9th, 1898, and he was of unsound mind at the time of his death." They added as a rider, "That it is unfortunate that the magistrate did not sign the order for the detention of the deceased in a lunatic asylum at the time of his examination in 1897." We quite agree with the jury. It used to be only too easy to get into an asylum, for during the first forty years of the century a lunacy order was a kind of *lettre de cachet* and the unfortunate victim was hurried off and imprisoned without either explanation or redress. Nowadays, however, it is by no means easy to get a lunacy certificate signed, but we may certainly take it that no medical man will sign a detention order without having very good reasons for so doing. This being so, it is intolerable that a non-professional person should be able to render a diagnosis and directions for treatment of no avail. In the case under consideration the life lost was perhaps one not very valuable to its owner, although such a death is a sad ending to a long life, but in similar cases which have occurred where homicidal tendencies were present many and more valuable lives might well have been sacrificed.

A PARISH COUNCIL IN ARGYLLSHIRE AND THE MEDICAL OFFICER.

A REMARKABLE letter of a very gratifying character has been addressed by the Duke of Argyll to Dr. McKechnie, of Bunessan, in the Island of Mull, and has at his Grace's instance been published in the *Oban Times* of March 5th. In length it considerably exceeds a column of THE LANCET, so that considerations of space prevent our reproducing it in full, but the following extracts sufficiently indicate its purport and the circumstances which elicited it.

"Edinburgh, Feb. 29th, 1898.

"SIR,—It is possible that consequent on a recent vote of a majority of the Parish Council—summarily and without reason dismissing you from your office—you may decide to leave the parish of Kilfinichen and seek professional employment elsewhere. I therefore think it my duty to address this letter to you to say that in my opinion you have been most unjustly treated by the present majority in the Parish Council. You have been upwards of twenty years medical officer of the parish of Kilfinichen. I am the largest proprietor and the largest ratepayer in the parish and during ..... the whole time of your service there I have never heard one word of complaint against you either on personal or on professional grounds. ..... It has been my duty to investigate the circumstances under which a majority of the Parish

Council has been misled to take a course so unusual and so unjust. The result has been a conviction on my part that you have been made the victim of some purely personal dislike conceived without any reasonable justification by one or two of the members of the Parish Council in matters entirely unconnected with your professional position. ..... The case is so flagrant that it has attracted the special attention of the Local Government Board in Edinburgh, which has certain statutory duties to discharge in the matter. ..... Lord Balfour in his letter [to the chairman of the Parish Council] has felt called upon to point out that the council has no moral right to dismiss a parochial medical officer on grounds which have nothing whatever to do with his professional duties. ..... When these facts are known it is very unlikely that any candidate of high character or honourable feeling will be found willing to take an appointment under such circumstances and under the apparently arbitrary power of such a council. ..... Should you, on the other hand, determine to appeal to the people among whom you have laboured so long, and who may, as I hope, be completely misrepresented by the present majority of the Parish Council, I shall be glad to continue you in the present small holding of land which you now occupy."

LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY, LIMITED.

IN their report for the year 1897 the Council of the London and Counties Medical Protection Association, Limited, congratulate the members on the fact that a large number of highly important cases have been dealt with successfully. In by far the greater number it was found possible to defend members with complete success against legal proceedings that were commenced against them without incurring the heavier expense that would have fallen upon the society if the cases had gone into court. This desirable result was attained in a great degree by carefully investigating all the circumstances of the cases and by allowing it to become known that in those cases which were accepted as proper subjects for the society's intervention the members would be defended regardless of expense. Numerous communications were received from members complaining of slanders uttered against them in their professional capacity and in many cases ample apologies were exacted, but when inquiry showed that the alleged slanders were no more than the ordinary gossip of which medical practitioners frequently become the subjects the aggrieved persons were advised to disregard them. A considerable number of cases have been dealt with by the society in which members on claiming reasonable fees for their services have been met by threats of actions for damages for neglect or unskilful treatment. Much work has also been done by the society in suppressing unqualified practice and in stopping medical practitioners from assuming titles which they did not really possess. The annual general meeting of the society will be held on March 29th in its office at 12, New Court, Lincoln's Inn. The treasurer and chairman of the Council is Dr. G. A. Heron. The honorary secretaries are Dr. Hugh Woods (general) and Mr. A. G. R. Foulerton (financial). All communications with regard to subscriptions, &c., should be addressed to the honorary financial secretary at the office in New Court, as above.

"AGGLUTINATION IN TYPHOID FEVER AND 'ANTI-TYPHOID' VACCINATION."

ON Feb. 10th a meeting of the Home Counties Branch of the Incorporated Society of Medical Officers of Health was held at the Holborn Restaurant, when a very interesting paper on the Agglutinative Reaction in Typhoid Fever and "Anti-typhoid" Vaccination was read by Dr. J. S. Tew, medical officer of health of the West Kent combined districts. Dr. Tew gave an account of the technique of the method which he employed and mentioned his results. He had no opportunity of examining cases before the end of the first week, but he "obtained a positive reaction with monotonous regularity in decided cases when the blood was taken during the third or fourth week." In two cases he obtained a positive reaction four and a half years and nine years after an attack of typhoid fever. Four cases giving a negative result, but in which the early symptoms closely resembled those of typhoid fever proved to be rapid phthisis, influenza of a gastric type, alcoholic excess, and gastritis. As regards "vaccination" against typhoid fever, in the early part of October, 1897, Surgeon-Major Semple offered to personally "vaccinate" anyone, who wished to be so treated, at the Kent County Lunatic Asylum where typhoid fever had broken out. Al the medical staff and a number of attendants accepted the offer. Not one of those "vaccinated"—84 in number—contracted typhoid fever, while of those "*unvaccinated*," numbering 120 and living under similar conditions, 16 were attacked. This is a significant fact, although it should in fairness be stated that the water was boiled after a certain date and other precautions were taken, so that the "vaccination" cannot be said to be altogether responsible for the immunity. Still the figures are striking. Out of 21 cases in which it was sought the agglutinative reaction was obtained in 18. The injection of the culture gave rise to a good deal of constitutional as well as local disturbance in the arm, the site of injection. Most of those treated felt quite well within three days, although the arm remained stiff and painful for longer. Dr. Tew's paper, which is published in full in the March number of *Public Health*, should be read by every medical man. His results would certainly seem to show that "anti-typhoid vaccination" has a most decided prophylactic or immunising effect and the value of this fact in an epidemic like that of Maidstone or Lynn cannot be over estimated.

THE ISLINGTON VESTRY AND THE WATER-SUPPLY.

MR. A. E. HARRIS, the medical officer of health of Islington, in his latest report to the vestry, says that he would like to see all cisterns for the storage of water for domestic use altogether abolished. He points out that such a course would only be possible if a constant service were supplied by the water companies and if the mains were placed at a sufficient depth below the ground to ensure that the water-supply would not be cut off by frost during severe winters. Mr. Harris further observes that cisterns may become the cause of disease to those who drink water from them and a cause of death to rats, mice, and insects which may have the misfortune to fall into them. He relates a case which came under his own observation in which a putrid mouse was found in a water-cistern in a house at Islington in which a patient had suffered from enteric fever. It is not clear from his report whether Mr. Harris thinks that there was a causal relation between the putrid mouse and the case of enteric fever. Mr. Harris does well to insist on the importance of cleanliness in the case of cisterns which are used for domestic supply. The London water companies are often blamed for sanitary defects which occur in the houses of their customers—a fact which was pointed out many years ago by the late Sir Francis Bolton, the water examiner to the Local Government Board. And the neglect of examining cisterns is, unfortunately, not confined to poor districts like Islington, for the medical officer of health of Kensington has complained that he has very frequently found great negligence displayed by people living in that fashionable quarter. The Parliamentary Committee of the Islington Vestry have issued a report advising that the Royal Commission on the Metropolitan

Water-Supply should be informed that the vestry are of opinion that in the interests of the ratepayers and of the water consumers all the metropolitan water companies' undertakings should be purchased and managed by the London County Council—that the London water-supply should undergo "municipalisation." Everyone remembers the comfort afforded to the old lady by the blessed word "Mesopotamia." At the present day the word "municipalisation" appears to afford equal comfort to many people. The members of the Royal Commission, however, who are men of business, attach greater weight to matters of fact than to matters of opinion, and if the Islington Vestry are in possession of any facts which support their opinion they would do well to enlighten the Commissioners as to the grounds which they have for the faith that is in them.

ON March 15th, in the anatomy theatre of University College, before a large gathering of students, a presentation of plate and an address, to which 170 signatures were appended, was made to Mr. Percy Flemming, F.R.C.S. Eng., by the past and present students who have worked under him, on the occasion of his resigning the post of Senior Demonstrator of Anatomy which he has held for twelve years and now vacates on being appointed Assistant Ophthalmic Surgeon to University College Hospital.

DR. PERCY FRANKLAND, F.R.S., Professor of Chemistry at Mason College, Birmingham, will read a paper upon the Bacterial Purification of Water at the College on Thursday evening next, March 24th, at 8.45 P.M., at the invitation of the Midland Pharmaceutical Association. We are asked to state that the President and Council of the Association will welcome the presence of any member of the medical profession.

A PORTRAIT of Mr. Herbert Spencer by Professor Herkomer will be exhibited at the forthcoming exhibition of the Royal Academy and will be presented to the National Portrait Gallery. We join in the congratulations to Mr. Spencer upon the conclusion of his monumental work, "Synthetic Philosophy," in the list of subscribers to which are the names of several medical men.

SIR JAMES CRICHTON BROWNE will take the chair at the next annual meeting of the Association of Asylum Workers to be held on Monday, March 28th, at 4 P.M., at 11, Chandos-street, Cavendish-square, in the rooms of the Medical Society of London.

THE Lord Mayor will give a banquet at the Mansion House on May 4th to meet the Presidents of the Royal Colleges of Physicians of London and Surgeons of England and other members of the medical profession.

As announced in our Parliamentary Intelligence the Government have in preparation and will very shortly introduce in the House of Lords a Bill for the amendment of the Lunacy Laws.

THE Council of King's College, London, have appointed Dr. W. J. Simpson, D.P.H., late Health Officer of Calcutta, to the Professorship of Hygiene in the College, *vice* Dr. Charles Kelly, resigned.

A MEMORIAL signed by seventy-nine qualified female medical practitioners has been presented to Lord George Hamilton protesting against the Indian Cantonments Rules of 1897.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

THE fifteenth meeting of the Royal Commissioners was held in the Westminster Town Hall on Monday, March 14th. All the Commissioners were present. The water companies and the London County Council were represented by counsel as usual. Lord Robert Cecil appeared for the County Council of Hertfordshire and the Kent County Council were represented for the first time by counsel, Sir Joseph Lees, Q.C., M.P., appearing on their behalf.

The sitting was occupied by the cross-examination of Mr. W. H. Dickinson, late chairman of the Water Committee of the London County Council, and by the examination of Sir John Lubbock, M.P.

Lord ROBERT CECIL commenced by asking Mr. DICKINSON some questions concerning the policy of the County Council with regard to the outside areas.

The witness said that in the case of Hertfordshire there were at present very few people supplied by the New River Company. It might be an onerous undertaking for London to supply all the Hertfordshire district. It was not proposed by the London County Council to hand over the Hertfordshire sources of supply to that county. The New River Company at the present time had the power to sink fresh wells and the County Council would possess the same power if they bought the company's property.

Mr. MELLOR pointed out that a right to dig wells was possessed by all owners of land.

Mr. DICKINSON said that there was a strong objection to taking more river water for the supply of London and that it was possible that an increased amount might be required from Hertfordshire. He contended that should they purchase the New River Company, if they were not allowed to draw more water from Hertfordshire payment would have to be made for the exemption by the Hertfordshire County Council.

In answer to the CHAIRMAN he said that his contention was that as far as Hertfordshire was concerned they would have the monopoly. In London, however, competition was possible and the witness thought that this was fair. The amount of water in Hertfordshire was limited. He did not agree that the people of Hertfordshire had any special right to the water in their county and said that that contention was new to him, and he did not deny Lord Robert Cecil's suggestion that he thought it was an unreasonable proposition. The witness thought the reasons for the purchase of the undertakings by the London County Council were that the County Council were in favour of the purchase, that they had provincial examples of the purchase of water undertakings by the local authorities, and that "finality" would be insured. He did not think that an efficient scheme of control could be arranged. He gave an instance in which at Balham, in the district of the Lambeth company, the water-supply was deficient during the summer of 1897. The explanation given by the company was that fish spawn had choked up the filter-beds.

Major-General SCOTT asked if this fact did not suggest that the storage reservoirs for unfiltered water were deficient and he suggested that if the London County Council would take means to see at what pressure water was supplied in the mains of the different companies they would have valuable information with regard to the efficiency of the supply.

In answer to the CHAIRMAN the witness said that if the properties of the companies could be inspected it would be an immense advantage.

Major-General SCOTT insisted that systematic examination of the pressure and a study of the variations of pressure in the supply-pipes would give most useful information with regard to the supply.

Mr. CRIPPS, Q.C., pointed out that such an examination would require the expenditure of money and that it would be necessary to have Parliamentary powers for it.

The CHAIRMAN said that it was not a new thing for Parliament to be asked to allow the County Council to spend money.

Mr. MELLOR asked whether the effects of control of the water-supply could not be carried out by a body elected somewhat on the lines on which the members of the Thames Conservancy were appointed. He would be glad to see a

scheme which would ensure real effective control. It appeared to him that effective control might be better than purchase of the undertakings and that it was a very clumsy scheme that the undertakings should have to be bought and then resold.—Mr. DICKINSON thought otherwise and stated that in his opinion there was a "public demand" for purchase—an expression which the CHAIRMAN characterised as "a little misleading."

Mr. MELLOR went on to question the witness as to purchase by arbitration and at this juncture Mr. Gomme, comptroller to the London County Council, handed to Lord Robert Cecil what was understood to be a rough proof of a table dealing with details of the possible price of purchase.

Lord ROBERT CECIL thought the paper should be put in as evidence, but he did not examine on it.

Mr. BALFOUR BROWNE, on behalf of the London County Council, contended that nothing but purchase by the London County Council would be satisfactory.

The CITY REMEMBRANCER examined the witness at some length with regard to the arrangements which it was suggested should be made with the County Councils of Surrey and Kent. He suggested that in the outside areas the number of water consumers would increase at a greater rate than in the City, but that on the other hand the rateable value of places in the City would be likely to increase at a greater rate than would happen in the case of the property outside. At the present time if the water rates of the City of London were the same as those paid in the district of the West Middlesex Company people in the City would pay more for their water than they do now. On the other hand, at the present time the consumers of the water of the West Middlesex Company paid less than the customers of the other companies. It was therefore not to the advantage of the City of London that the undertakings of the company should be purchased until arrangements were made by which the people of the City of London should ensure that a definite settlement was made with regard to the prices they would be called upon to pay. The policy of the City of London was that the water-supply should be placed under efficient control. Reference was made to certain meetings which had taken place between representatives of the London County Council and of those of the Corporation of the City of London and some letters were read; these, however, were not of general interest.

Mr. DICKINSON, in reply to the City Remembrancer, said that in his opinion if the County Council managed the supply the people living in the City of London would not continue to have specially favourable terms with regard to the price they paid for water.

Sir JOHN LUBBOCK, M.P., was the next witness and the taking of his evidence occupied the rest of the sitting and was not completed before the adjournment until Monday next, March 21st. Sir John Lubbock gave weighty reasons against the purchase of the companies by the London County Council and it will be more convenient to present his evidence as a whole next week.

GLOUCESTER AND SMALL-POX.

(*Continued from p. 600.*)

ONE or two instances may be given of the way in which statements with regard to the hospital have been used to distract attention from want of vaccination as a cause of small-pox in Gloucester. In April, 1896, the *Vaccination Inquirer* wrote: "By way of what has been facetiously called isolation the sick have been huddled together in numbers four times too great for the hospital accommodation that had to be made to do duty for all of them." The hospital being for 48 beds a fourfold occupancy would mean nearly 200 patients. The assertion of the *Inquirer* is simply an untruth. It makes no approximation to fact, as there never were any such numbers in the 48-bed hospital. As to the normal air space, the number of cubic feet per bed is said to have been 1250, but in hospitals of wood and iron (such as existed both at Leicester and Gloucester) the theoretical requirement of 2000 feet is seldom met, and where there is a large proportion of children and convalescents 1250 cubic feet per bed can hardly be complained of. Another instance we find in a statement by Dr. Walter R. Hadwen. Writing in the *British Weekly* of Sept. 24th, 1896, he says regarding the hospital: "Dr. Brooke, of London, was at last sent for to take charge and he instituted an entirely new order of things. He introduced warm baths, appointed a matron and trained nurses and adopted a treatment consistent with the advanced medical ideas of modern times; and whereas until his advent the fatality had been 54 per cent. the fatality subsequent to his arrival was reduced to 8 per cent." In speeches at Reading, Coventry, &c., he gave the same figures—54 and 8 per cent. To the readers of the *British Weekly* he offered no indication of how these percentages had been arrived at, but in a lecture at Weston-super-Mare in the following month he made an explanation. He said that when Mr. Brooke entered on his duties he took over 281 patients. The total admissions previously to Mr. Brooke's arrival had been 558 and the deaths had been 151. The death-rate of 54 per cent. was obtained by ignoring the 281 cases in the wards and calculating the deaths on the other 277 cases only. Of the 281 cases we understand that only 2 died. But while the 281 are ignored as regards the calculation of 54 per cent. they play a most important part in producing the 8 per cent. which is alleged to have distinguished Mr. Brooke's control of the hospital. The total admissions under Mr. Brooke were only 145, but when the 281 are added we get 420 cases, and as the deaths under Mr. Brooke were 38 the rate comes out at 8·92 or practically 9 per cent. The 0·92 being dropped an 8 per cent. rate remains and is served up for the readers of the *British Weekly*. Let us take an extreme example and suppose that previously to Mr. Brooke's time there had been 100 patients admitted of whom 1 had died and 99 were mending but had not been dismissed when Mr. Brooke arrived, and that subsequently 1 case only was admitted and died. Then, following the method adopted by Dr. Hadwen, it would appear that previously to Mr. Brooke's coming the fatality-rate had been 100 per cent. and that subsequently it was only 1 per cent., while the facts would have been exactly the reverse—that the earlier fatality-rate was only 1 per cent. and the later 100 per cent. In view of his statistical methods there is no doubt that Dr. Hadwen is a valuable advocate of the cause of anti-vaccination. It is only fair, however, to Lieutenant-General Phelps to say that he had a large share in the promulgation, if not in the calculation, of these fatality-rates.

But the hospital is by no means the only excuse for the small-pox epidemic that anti-vaccinationists have furbished up. The Royal Commission having been told how very sanitary the town was, subsequent denunciations of it as insanitary have been all the stronger. Lieutenant-General Phelps has said that "the sanitary condition of the city was something of a horrible kind." Dr. Hadwen has described it as one of the "hotbeds of insanitation." Mr. George Newman, who was the principal local mouthpiece of anti-vaccination before the Commission and who had asserted that Gloucester had "always been well abreast of sanitary improvements," boldly ignored his own evidence and gave "the insanitation of the affected half of the city" as one of two causes of the epidemic. He had said nothing whatever to the Commission about this half of the city being insanitary. But small-pox prevailing chiefly in the south he now straightway turns his back on his own statement so far as it applied to the south and asserts that that district was insanitary. This insanitation, however, is only one of the two causes adduced by Mr. Newman. What is the other? In reply to a question he had unhesitatingly told the Royal Commission that the hospital was "outside the town." Yet the other cause to which he now attributes the small-pox is "the situation and neglect at the small-pox hospital." And he attacks the medical officer of health for not blaming the outbreak on these two causes—the hospital and insanitation. Dr. Campbell, he says, "ignores the question of *situation* of hospital as a factor. He denies neglect at hospital and he ridicules *insanitation*." The italics are ours and the quotations are from a published report of what the *Vaccination Inquirer* describes as "a powerful speech in which, at a recent meeting of the city council, Mr. Newman vigorously assailed the report of the medical officer of health." In his speech Mr. Newman had this protection, that at the time he attacked the medical officer the volume containing his own evidence before the Commission had not been published and he took good care not to let the council know that in the absence of small-pox he had himself insisted that the town was well abreast of sanitary reforms and that the hospital was outside the town.

It would be sheer waste of time to comment on all the mischievous nonsense that apologists for anti-vaccination have written or talked regarding Gloucester. In one place drainage is blamed, in another water-supply, in another house accommodation, in another overcrowding of schools. In defiance of topography Dr. Hadwen wrote in the *Bristol Mercury* that during the epidemic "the Severn goes on merrily washing the sewage backwards and forwards past the doors of the small-pox stricken houses." Now we have already learned, and Dr. Hadwen himself insists, that the great bulk of the small-pox was in the south of the city and, as Dr. Bond points out in an admirable tract issued by the Jenner Society, and as must be known to every Gloucester man, (1) the Severn is practically the boundary of the city on its north-west side, which is almost entirely occupied by docks, corn warehouses, &c.; (2) there are not a dozen houses "past whose doors" it runs; and (3) excepting for about two hours on not more than three days before and after the new and full moon the water flows rapidly and continuously away from the city instead of "backwards and forwards." One point of this statement of Dr. Hadwen, if the statement had been true, would have been found in another assertion, this time by Lieutenant-General Phelps, that "when the city ran short of water they pumped the water out of the river into the mains and it was drunk." In reply to this it appears from Dr. Bond's pamphlet ("The Truth about the Sanitary Condition of Gloucester") that in the epidemic years 1895–96 Severn water was had recourse to for drinking only on four nights in June, 1896, when the epidemic was nearly at an end. In defiance of arithmetic Dr. Hadwen says: "A large number of the houses were supplied by old wells which were contaminated with sewage," whereas it appears from the annual report of the medical officer of health for 1895 that the number of houses using shallow wells was only eighty-seven, or less than 1 per cent. of the houses of Gloucester at that time. Again, in defiance of known facts Dr. Hadwen (as reported in the *Coventry Times*, Sept. 9th, 1896) said, after the epidemic was at an end, that only about 100 cases of the disease had occurred in the northern part of the city, whereas, even taking Lieutenant-General Phelps's boundary line, the known cases to the north of it were 214. But the latter gentleman surpasses Dr. Hadwen himself here, for to the *Birmingham Daily Post* he wrote on July 28th, 1896, of "the failure of the twenty or thirty cases in North Gloucester to spread." Supposing that vaccination were as useless and mischievous as Dr. Hadwen and Lieutenant-General Phelps say it is, do they really think it justifiable in depreciation of vaccination to use instead of the ascertained figure 214 such phrases as "about 100" or "twenty or thirty"? If they did not know the facts, why did they pretend to know them? If they did know them, why did they mis-state them? Once more, in supporting the allegation that insanitation in the southern part of the city accounted for small-pox being more prevalent there Dr. Hadwen speaks of the houses as being largely "jerry-built." As a matter of fact, south Gloucester contains the newer part of the city, where the house-building has been done under municipal supervision for more than twenty years, while the northern part, where there was least small-pox, contained the oldest houses. Not only so, but in the "South Hamlet" the density of population was under thirty-two per acre, while in the next largest of the four districts, St. John Baptist, which is in the northern part, the density was over sixty-four per acre. Had small-pox occurred in the St. John Baptist district instead of in the south, is there any doubt whatever that we should then have had South Gloucester held up as modern, airy, and sanitary, with wide streets, with new houses built in accordance with the most recent teachings of science, with sewers ventilated by street gratings instead of belching their gases into dwelling-house drains, and with low density of population? On the other hand, in the St. John Baptist district we should have been told that the houses were slums, old, dirty, damp, and so densely crowded together that fresh air and ventilation were impossible, and instead of dilating on alleged bad drainage and jerry-built houses the evidence of Dr. C. Creighton before the Royal Commission would have been quoted to show that the outstanding causes of small-pox are over-crowding, insufficient ventilation, and domestic filth. But the small-pox was mainly in the south instead of in the north and so the sanitary condition of the south was denounced, while the north containing the overcrowded slums was praised for its excellent drainage, and to this alleged excellent drainage was attributed its freedom from small-pox. Needless to say it is a bit of elementary medical knowledge that the infections the spread of which is to be looked for in water-supply or drainage do not include small-pox any more than they include measles or whooping-cough.

Why, then, did small-pox attack the south much more than the north? In presence of the facts the answer is so very plain as to leave no excuse for dubiety. The youthful population of Gloucester was unvaccinated, infection found its way into infant schools in the south of the city, and from them the disease spread like fire amid dry tinder throughout that part of the town in which the great majority of the children attending these schools lived. As Dr. Coupland says: "In the middle of February there was a striking exacerbation. ..... This increase was due to the fact that within a few days of one another about forty children attending the Widden-street infants' school were attacked and ..... there is good ground for believing that shortly afterwards others of the public elementary schools similarly served to disseminate the disease until they were closed by the order of the sanitary authority. ..... The disease had now obtained a footing in the city which rendered it beyond control; the increasing numbers who remained in their homes served to keep up foci of contagion, which resulted in some quarters, both in the south and west of the town, being visited to a disproportionate extent, so that in some streets hardly a house escaped the disease."

The schools were overcrowded, Dr. Hadwen says. But what difference would it make to small-pox in a school whether there are ten children or eleven children or twelve children on any given bench? Was there ever a school in which the distance between one child and its neighbour was so great as to be beyond the carrying power of variolous infection? The drains of one of the schools were defective, he says. But in and from the many overcrowded schools throughout the country, with or without drainage defects, can a case be quoted in which, small-pox having been introduced, it spread among the juvenile population as it did when it gained entrance into the Gloucester schools, where it found the children unvaccinated? Before ever vaccination was heard of small-pox was a disease of childhood. Where infantile vaccination is carried out we have no such experiences of epidemics among children, but in Gloucester, where infantile vaccination was neglected, we find the disease returning to its old sphere of work among the children.

The last question is, what caused the sudden cessation of the epidemic? Dr. Hadwen says it was not re-vaccination. In the *British Weekly* he writes: "According to official figures the small-pox cases reached their high-water mark on April 9th, when a steady decline commenced—it had evidently played itself out. Now the Vaccination Committee which was organised for carrying out this universal cow-pox blood-poisoning was not appointed until April 21st and the staff did not commence their duties until April 27th, by which time the notifications had already declined from 211 on April 9th to 131. Now in Gloucester we are told it takes fourteen days or a month before the vaccination is 'protective,' so that taking for granted everybody had been vaccinated by the 30th and allowing the lowest period of computation this organised cow-poxing could not have become effectual until May 14th, but by that time the small-pox notifications had still further declined to 84." This is really very plausible, but there is just one thing that Dr. Hadwen refrains from even mentioning. The people of Gloucester did not wait for the appointment of any committee before starting to re-vaccinate. The work had been well begun all over the town weeks before the operations of this committee were in progress. On March 20th Dr. Bibby, the public vaccinator for the greater part of the city, informed the guardians that he was vaccinating persons at the rate of 400 daily and it became necessary to appoint an assistant to enable him to meet the demand. Indeed, the value of re-vaccination was called in question because in presence of so much of it it was alleged that small-pox still prevailed. For evidence of this we need only turn to another anti-vaccinationist, who signs himself W. Wallace Grant, honorary secretary Anti-Compulsory Vaccination League, who, writing from Newport-on-Usk on May 5th, 1896, to the *South Wales Daily Star*, delivers himself as follows: "I will now refer to the present time while the epidemic is at its height and the mortality

has for the past four consecutive weeks remained stationary (43, 45, 43, 43), notwithstanding the weekly vaccination and re-vaccination of thousands of the citizens which has been going on for the last two months."[1] Mr. Grant, starting to make capital out of the fact that vaccination and re-vaccination had been very largely practised throughout March and April, declares that notwithstanding "the weekly vaccination and re-vaccination of thousands" small-pox had not declined. But when it became no longer possible to deny that small-pox had declined and had declined rapidly, Dr. Hadwen sends to the *British Weekly* the letter from which we have above quoted, *not* denying that re-vaccination had been largely practised in March and April, but writing in such a way that his readers who knew no better would accept the commencement of the committee's work at the end of April as the commencement of re-vaccination in Gloucester. What difference did it make to the vaccinated thousands whether their vaccination had been "organised" by a committee or done before the committee began to act?

(To be continued.)

[1] Quoted in *Vaccination Inquirer*, June, 1896.

THE NINTH INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.

MORE recent information concerning the Ninth International Congress of Hygiene and Demography indicates that great efforts are being made to ensure a complete success. The general secretary, Dr. Amalio Gimeno, to whom all communications should be addressed at the Ministry of the Interior, Madrid, writes to inform us that the French as well as the Spanish railway companies have consented to grant a reduction in the fares equal to 50 per cent.; but what is even more valuable is the fact that this reduction will date from March 20th to May 10th, thus giving ample time for a prolonged tour in Spain. The Italian railway companies have also granted a reduction for members of the Congress. Excursions are being organised for the members of the Congress to the Escurial, the great semi-monastery and semi-palace built for Philip II. in the sixteenth century. The interior courts give the building the shape of a gridiron, which is supposed to be an allusion to the martyrdom of San Lorenzo. In any case Philip II took an oath at the battle of St. Quentin to build this place if San Lorenzo would grant victory to the Spanish arms. But many other places of equal and even greater interest will be visited. Thus there are to be excursions to Toledo, Aranjuez and to Andalusia, notably to Granada. All these excursions will be at a special and very much reduced tariff. Further, we are informed that Her Majesty the Queen Regent has graciously expressed the desire to receive the members of the Congress at her Royal Palace. There will also be a reception at the Presidency of the Council of Ministers, given by the Premier, Señor Sagasta, and at the Town Hall by the Madrid Municipality. In a word, the members of the Congress will be received at Madrid with the same hospitality and courtesy which they have enjoyed in other capitals of Europe. Nor is this a light undertaking. What it implies may be judged by the fact that at the International Congress of Hygiene and Demography held in London in 1891 2883 members attended, including 400 ladies, and at the ensuing Congress of Budapest there were 2557 members, including 317 ladies. The Provincial Council, as well as the Municipality of Madrid, and various corporations and official societies which have their centre in the capital are all uniting in organising *fêtes* and a hospitable reception for the members of the Congress. His Excellency the Minister of the Interior is president of the General Committee of Propaganda and Organisation. This committee is sub-divided into four sections or sub-committees, the Executive Sub-committee, the Sub-committee for the Exhibition, the Financial Sub-committee, and the Reception Sub-committee.

The following are the officers of the Congress as appointed by the General Committee: president, His Excellency the Minister of the Interior; president of the technique of the Congress, Dr. Julián Calleja; vice-president, the Under Secretary of State at the Ministry of the Interior; Secretary-General, Dr. Amalio Gimeno. Executive Sub-committee: president, Dr. Julián Calleja; vice-president, Marquis du Busto. Reception Sub-committee: president, Señor José Calvo Martín; vice-president, Señor Angel Fernández Caro. Exhibition Sub-committee: president, Señor Bernardo Mateo Sagasta; vice-president, Señor Modesto Martinez y Gutiérrez Pacheco. Finance Sub-committee: president, Señor Antonio Maria Fabié; vice-president, Señor Santiago Ramón y Cajal. Sixteen secretaries are attached to these sub-committees. Señor Pablo Ruiz de Velasco, President of the Madrid Chamber of Commerce and member of the Municipal Board of Health, is the treasurer of the Congress, and Señor Juan Alvarez Mariño is the accountant.

According to the latest arrangements the sections are maintained in their original order. There are ten sections for hygiene and three for demography. The ten hygiene sections are as follows: (1) Bacteriology as applied to Hygiene, (2) the Prophylaxis of Transmittable Diseases, (3) Climatology and Medical Topography, (4) the Hygiene of Cities, (5) the Hygiene of Food, (6) Childhood and School Hygiene, (7) the Hygiene of Exercise and of Labour, (8) Military and Naval Hygiene, (9) Veterinary Hygiene, Military and Civil, (10) Architecture and Sanitary Engineering. The demographical sections are (1) the Technique of Demographical Statistics, (2) Statistical Results, and (3) Dynamic Demography.

All who propose to attend the Congress should at once notify the same to the Secretary-General and forward the entrance fee of 25 pesetas. It appears that this payment need not be made in gold, therefore a 25 peseta Bank of Spain note, which can be purchased at any money exchange for about 16*s*., will suffice. Thus, in consequence of the depreciation of Spanish paper money the subscription does not amount to more than the 20 fr. or 16*s*. gold currency charged as the admission fee at all the Congresses previously held on the Continent. The purchase of a Spanish note is by far the easiest method of remitting the money, but it would be as well to register the letter containing the note. In exchange a card with two coupons will be forwarded, one for the outward and the other for the homeward journey. This, together with the card of membership to identify the traveller, must be presented at the railway station booking office. The bearer must be in a position to prove his identity whenever called upon to do so by the railway officials, and for this purpose, as also to claim letters at the post-office, a passport will be found useful. The railway companies reserve the right to withdraw the tickets and to charge full fares if any abuse is made of them. By this is meant, we presume, the employment of the tickets for others than the members of the delegate's family. The outward coupon is available from March 20th to April 16th and the return coupon from April 17th to May 10th. As already mentioned in the previous notices concerning this Congress, ladies belonging to the families of members can join in the receptions and excursions of the Congress on payment of an entrance fee of 10 pesetas, but to be full members of the Congress they must possess a professional title and pay the full fee. The meeting of the Congress affords a pleasant opportunity of spending the Easter week in Spain, and British sanitary reformers will be rendering good service to the cause they have at heart by being present in large numbers at Madrid.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on March 10th, the President, Sir WILLIAM MACCORMAC, Bart., being in the chair.

The following recommendations of the Committee of Management of the Conjoint Examining Board were adopted:—

1. That the Technical College, Darlington, and the Higher Grade Board School, Hanley, be added to the list of institutions recognised by the Board for instruction in chemistry, physics, and practical chemistry.
2. That the Western University, London, Ontario, be added to the list of institutions recognised by the Board at which the whole curriculum of professional study may be completed, and whose graduates in medicine are admissible to the Final Examination.
3. That Mr. Thomas Cooke's course of operative surgery be recognised for the current year.

The following report was received from the Laboratories Committee:—

1. *The work on Diphtheria for the Metropolitan Asylums Board.*—The preparation of antitoxic serum. Since Dec. 3rd the Director has supplied 7275 doses of antitoxic serum, each containing 2000 units, for the treatment of diphtheria in the hospitals of the Metropolitan Asylums Board and all the demands have been fully met. During this period 14,550,000 units have been supplied, against 9,954,000 units last quarter, which, however, extended over a period of two months only, being an increase of 4,596,000 units.

2. *Researches in connexion with the Grant from the Goldsmiths' Company.*—Dr. Cartwright Wood and Dr. T. G. Brodie have continued their investigations but as yet have nothing further to report. In fulfilment of one of the conditions of the grant from the Goldsmiths' Company that antitoxin should be if possible supplied for use amongst the poorer classes of the community the director has continued the supply of antitoxic serum to various general and children's hospitals in London during the past quarter, as well as to certain medical practitioners for cases fulfilling the necessary conditions.

The Council removed from the list of Members a Member of the College who had recently been convicted of felony, and the Secretary was directed to inform the Registrar of the General Medical Council of the fact.

The PRESIDENT reported that Dr. T. G. Brodie, Arris and Gale lecturer, had delivered three lectures on "The Chemical Properties and Place of Formation of the Antitoxins"; that Mr. H. J. Waring, Erasmus Wilson lecturer, had delivered three lectures on "The Pathology and Treatment of those Diseases of the Liver which are Amenable to Direct Surgical Interference"; and that Professor F. G. Parsons had delivered three lectures on "The Muscles of Mammals, with Special Relation to Human Myology."

A letter was read from Dr. Isambard Owen thanking the Council for granting permission to the Metropolitan Counties' Branch of the British Medical Association to hold a conversazione at the College.

A letter was read from Mr. F. Rowland Humphreys, honorary secretary of the Midwives Bill Committee, enclosing a copy of the Bill together with papers relating thereto, and stating that the Bill would come up for second reading before the House of Commons on May 11th, and that as a division was sure to take place the Committee were anxious to secure the support of the College, which, under Clause 5 Section I. of the Bill, is entrusted with the duty of appointing three members to the Midwives' Board.

The matter was referred to a committee to consider and report.

A petition was read from Members of the College resident in Italy asking the support of the Council in protecting their interests as British practitioners in that country in view of the proposed legislation of the Italian Government enacting that qualified medical men of other countries shall not in future be allowed to practise in Italy without holding the degree of an Italian university. It was referred to a committee consisting of the President and Vice-Presidents to consider and report.

A petition was read, signed by certain Fellows and Members of the College, claiming that the right of electing a representative of the College to the General Medical Council is, by Section 7 of the Medical Act, 1886, vested in the Fellows and Members of the College, and requesting the Council forthwith to make arrangements to hold an election and enable the Fellows and Members to choose a representative to be a Member of the General Medical Council.

The Secretary was directed to inform the petitioners that the questions raised by them were under consideration.

A letter was read from the Chairman and Honorary Secretary of the delegates of the metropolitan medical schools stating that the deputation to the metropolitan Members of Parliament on the subject of the London University Commission Bill will probably be received after the Bill has been read in the House of Commons and suggesting that each institution interested in the Bill should appoint a small committee to see the member for the district in which the institution is situated and urge upon him the importance of this measure to education in London.

The President and Mr. H. G. Howse were requested to take steps to promote the Bill.

BERKELEY HOSPITAL.—The annual meeting of this hospital was held on Feb. 2nd. The report stated that ninety-two patients had been admitted during 1897. The financial statement showed that the gross expenditure was £502 and that owing to building a new mortuary and laundry the institution was £31 in debt. Lord Fitzhardinge was elected president.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL INSPECTORS OF THE LOCAL GOVERNMENT BOARD.

Upon an Outbreak of Enteric Fever at King's Lynn, by Dr. F. ST. GEORGE MIVART.[1]—The outbreak of enteric fever which occurred in Lynn during the past autumn attracted much public attention, more particularly as it followed so closely on the Maidstone epidemic and as, like the latter, it was attributed to polluted water service. Dr. Mivart's report places on record the principal facts of this Lynn outbreak. Suddenness of onset was one of its most conspicuous features. Cases of enteric fever occurred in Lynn and in the adjoining village of Gaywood before the beginning of October; but the number of these cases—namely, 5 in July, 2 in August, and 9 in September—could not be considered unusual for these places. In the course of October, however, no fewer than 303 persons, dwelling in 255 houses, were attacked by the fever; while additional 141 persons were attacked and other 96 dwellings were invaded during November. "In the fortnight ending on Oct. 26th," says Dr. Mivart, "fever in Lynn and Gaywood increased thirty- to forty-fold and maintained during the next and succeeding fortnight a nearly equal degree of prevalence. Afterwards it quickly declined, so that by the beginning of December the epidemic as such was practically at an end." Lynn and Gaywood together had a population of 19,312 in 1891. A total of 453 cases and 44 deaths which were referred to enteric fever in Lynn and its neighbourhood between Sept. 1st and Nov. 30th thus represent an attack-rate of 23·4 and a death-rate of 2·28 per 1000 of census population. There appears to be no room for doubt that this epidemic was occasioned by specific pollution of the public water-supply which serves both Lynn and Gaywood. Dr. Mivart deals with the evidence in detail and demonstrates that no explanation of infection by way of milk, by sewers, or by insanitary conditions in the dwellings invaded will in any way account for the general features of the outbreak. On the other hand, it was altogether consistent with an infected water-supply that when the great outbreak of fever came in October the disease was found to be spread broadcast over the whole district served by the water-supply, there being, at the beginning at all events, not the least tendency to grouping of cases. And as a matter of history the unwholesomeness of Lynn water was notorious. It was indeed no longer ago than 1892 that an extensive outbreak of enteric fever (135 cases in Lynn and Gaywood, with fifteen deaths) was shown by Dr. Bruce Low, of the Medical Department of the Local Government Board, to have been due to specific infection of the public water-supply which, he pointed out, was then exposed to multifarious risks of excremental pollution. In 1897 the inhabitants of Lynn were still served with water from this polluted source—namely the supply drawn from the Gaywood river. Here, in brief, is Dr. Mivart's account of it. The Gaywood rises from springs at the base of the chalk; two out of three principal groups of springs are polluted at the outset, one group rising beneath a cemetery, the other being fouled by solid and liquid refuse from a farmstead. In its course to the intake the river and its tributaries undergo manifold pollutions—slop-water from three hamlets, cesspool overflows, slaughter-house drainage, a public-house urinal, and the washings of a laundry among the number. A mile above the intake the river flows past gardens in Gaywood village where there are privies on the brink of the stream; in its course to the intake it is separated merely by an insufficient barrier of clay puddle from ditches receiving house drainage and cesspool overflows. The pipes which lead from the intake to the reservoir are only three feet below the surface of manured allotment gardens; they are not embedded in concrete and they leak freely. The reservoir itself is exposed to divers risks of pollution, while, lastly, the "filtration" which the reservoir water undergoes before

[1] London: Eyre and Spottiswoode, East Harding-street, E.C.; John Menzies and Co., Edinburgh and Glasgow; Hodges, Figgis, and Co., Dublin. 1898. Price 5d.

it is delivered to the Lynn consumer is quite inadequate. Thus in respect of this Gaywood river supply at the time of the outbreak there were as usual a multiplicity of conditions which courted catastrophe. The immediate occasion of the disaster of October, 1897, appears to have been a storm of rain of exceptional severity which occurred in the neighbourhood of Lynn on Sept. 29th. A local rain-gauge recorded as much as 2·25 inches of rain in the course of twenty-four hours on that date. This downpour led to extensive flooding of the Gaywood river and inevitably caused an exceptional quantity of excremental and other foulness to be washed into the stream. "There can be no doubt at all," Dr. Mivart observes, "that the epidemic, as such, was due to infection of enteric fever gaining access to the water-works as a result of this rainstorm." He recalls that a similar flooding of the Gaywood river occurred shortly antecedent to the 1892 outbreak.

Lynn has suffered severely by this epidemic, but here, as in the case of Gloucester during the recent small-pox outbreak the sympathy of thoughtful people with the town must needs be somewhat qualified. In Lynn the danger of the water-supply had long been known to the inhabitants and had been impressed upon them again and again by the many responsible experts who had had the question submitted to them. And the 1892 outbreak had already afforded demonstration, if any were needed, of the ability of this water to convey disease broadcast among those who drank it. Nor again was this case one where the supply was furnished by a water company over whose operations the inhabitants of Lynn had no control. The supply is the borough supply and is owned by the Lynn Corporation, and its use up to the present time appears to have been a matter of deliberate choice by the majority of the people of the town. For even when the Town Council of Lynn, after the 1892 epidemic, had been moved to set about obtaining a supply of wholesome water from a new source the predominant party of "economy" frustrated their action. A Provisional Order of the Local Government Board, however, at length enabled the Town Council to proceed with their scheme, and these new works, Dr. Mivart reports, at the time of his visit seemed likely to be completed in six or eight months. It appears, therefore, tolerably certain that had it not been for the opposition of the party of "economy" the lives and money expended in the 1897 outbreak would have been saved.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Sunderland Port Sanitary District.—During 1897 there were 6269 vessels entering this port and of this number only five carried infectious disease—i.e., three cases of enteric fever and two of small-pox. The port sanitary inspector visited 2747 of these vessels, and when we read that there were no less than 37,532 persons on board we recognise what an important matter the sanitary control of our shipping is. Of the vessels inspected 8½ per cent. were found to present some sanitary defect, and Dr. Scurfield points out that with the Board of Trade allowance of seventy-two cubic feet of air space and twelve superficial feet of floor space to each seaman it is necessary to insist on the most scrupulous cleanliness and efficient ventilation. In our experience, however, this adequate ventilation of the confined quarters of the seamen is a most difficult matter. In connexion with national cleanliness we note that the Russian, Danish, and Dutch vessels were found on the whole in a good sanitary condition, while the Norwegian ships yielded the highest percentage *quâ* insanitary details. Next came the German and next the French. The British vessels occupied a middle position as regards cleanliness.

Newton Abbott Urban District.—Mr. W. Harvey strongly objects to the construction of his "Sanitary Committee," or rather to the multitudinous duties it is called upon to perform. To it are referred, he tells us, "all irregular matters not directly concerning the financial, lighting, road, and market committees," and it is only after discussing all these irregular subjects that it turns its exhausted mental energies to a consideration of matters sanitary. This practice is, as Mr. Harvey rightly remarks, "a relic of the dark ages, when sanitation was looked on with contempt, and any system of thrusting it into the background was accepted." Newton Abbott is much afflicted with the poultry nuisance, and fowls and ducks exist there "probably in tens of thousands." Mr. Harvey, after dwelling upon this nuisance, remarks: "No wonder that half the youth of England does not attain even to the requirements of our moderate army standard." But surely Mr. Harvey does not regard this fact, if fact it be, as due to the keeping of fowls and ducks in crowded backyards? Newton Abbott is supplied with water from the Torquay reservoirs, and the council of this town have, it appears, decided to buy up the houses in the watershed from which the Hennock reservoirs are filled. This is a wise and far-sighted measure, and it may be referred to in Mr. Harvey's somewhat elaborate language: "It is a great work, final and logically basic, as far as can be foreseen, for which posthumous applause will be rendered; future generations of Torquinians when they see other corporations floundering in a mire of difficulties to attain the same end will have solid reason to call this resolute action of their predecessors blessed."

Islington Sanitary District.—Mr. A. E. Harris in his last quarterly report states that during November and December last it became necessary to order the closure of four elementary public schools in his district on account of the prevalence of measles. In no instance, he tells us, did the teachers give notice of the unusual prevalence of measles among the scholars, and had it not been for the information afforded by the death returns he thinks it possible that nothing would have been discovered. The teachers were, it is reported, apparently ignorant of the fact that their school code renders it obligatory on them to notify the cases to the medical officers of health. Mr. Harris is about to discuss the whole question of schools in their relation to infectious disease in his current annual report.

Wigan Urban District.—Mr. William Berry speaks favourably of the voluntary notification of first cases of measles in Wigan. On cases being notified the inspector visits the house and instructs the parents as to isolation and disinfection. The number of deaths from measles in Wigan during 1897 was 34 as against 116 in 1896, and if the same fatality-rate obtained in 1896 as in 1897 there must, Mr. Berry thinks, have been some 2268 cases in 1896. He regards it, however, as improbable that the same fatality-rate obtained in the two years. The school authorities have rendered valuable assistance during the past year.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 6710 births and 4535 deaths were registered during the week ending March 12th. The annual rate of mortality in these towns, which had been 20·9 and 20·7 per 1000 in the two preceding weeks, rose again last week to 21·1. In London the rate was 21·5 per 1000, while it averaged 20·8 in the thirty-two provincial towns. The lowest rates in these towns were 13 8 in Burnley, 14·5 in Norwich, 15 7 in Birkenhead, and 16·0 in Wolverhampton; the highest rates were 24·6 in Sunderland, 25·1 in Liverpool, 26·1 in Gateshead, and 29 1 in Swansea. The 4535 deaths included 538 which were referred to the principal zymotic diseases, against 504 and 481 in the two preceding weeks; of these, 258 resulted from measles, 124 from whooping-cough, 68 from diphtheria, 40 from "fever" (principally enteric), 31 from diarrhœa, and 17 from scarlet fever. No death from any of these diseases was recorded last week in Plymouth; in the other towns they caused the lowest death-rates in Croydon, Nottingham, and Burnley, and the highest rates in Oldham, Swansea, Bristol, and Leicester. The greatest mortality from measles occurred in London, Brighton, Bristol, Swansea, Leicester, and Derby; from whooping-cough in Birmingham, Oldham, Sheffield, and Gateshead; and from "fever" in Preston. The mortality from scarlet fever showed no marked excess in any of the large towns. The 68 deaths from diphtheria included 33 in London, 6 in West Ham, 4 in Bristol, 4 in Cardiff, 4 in Birmingham, and 3 in Liverpool. No fatal case of small-pox was registered during last week either in London or in any other of the thirty-three large towns; and only one small-pox patient was under treatment in the Metropolitan Asylum Hospitals on Saturday last, the 12th inst. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 2445, against 2781, 2674, and 2534 on the three preceding Saturdays; 123 new cases were admitted during the week, against 233, 199, and 175 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 416 and 425

in the two preceding weeks, further rose to 429 last week, but were 136 below the corrected average. The causes of 73, or 1·6 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Bristol, Leeds, Newcastle-upon-Tyne, and in twelve other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Birmingham, Liverpool, and Blackburn.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had increased in the six preceding weeks from 17·4 to 21·8 per 1000, further rose to 25 0 during the week ending March 12th, and was 3·9 per 1000 above the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 18·9 in Aberdeen and 21·2 in Dundee to 25·5 in Greenock and 26 9 in Paisley and Glasgow. The 753 deaths in these towns included 25 which were referred to whooping-cough, 18 to measles, 18 to diarrhœa, 7 to scarlet fever, 7 to diphtheria, and 6 to "fever." In all, 81 deaths resulted from these principal zymotic diseases, against 72 and 78 in the two preceding weeks. These 81 deaths were equal to an annual rate of 2·7 per 1000, which was 0 2 above the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had been 20 and 27 in the two preceding weeks, declined again to 25 last week, of which 19 occurred in Glasgow and 3 in Paisley. The 18 deaths referred to measles were within 2 of the number in the preceding week, and included 16 in Glasgow. The fatal cases of scarlet fever, which had declined from 12 to 8 in the three preceding weeks, further fell to 7 last week, of which 3 occurred in Glasgow and 3 in Edinburgh. The 7 deaths from diphtheria exceeded the number recorded in recent weeks, and included 4 in Edinburgh and 2 in Glasgow. Of the 6 fatal cases of "fever" 4 were registered in Glasgow and 2 in Greenock. The deaths referred to diseases of the respiratory organs in these towns, which had been 117 and 142 in the two preceding weeks, further rose to 187 last week, and exceeded by 35 the number in the corresponding period of last year. The causes of 38, or more than 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had increased in the two preceding weeks from 28·5 to 32·5 per 1000, further rose to 37·3 during the week ending March 12th. During the past ten weeks of the current quarter the death-rate in the city has averaged 32·2 per 1000, the rate during the same period being 21·9 in London and 19·4 in Edinburgh. The 250 deaths registered in Dublin during the week under notice showed an increase of 32 upon the number in the preceding week, and included 16 which were referred to the principal zymotic diseases, against 9 and 16 in the two preceding weeks; of these, 6 resulted from scarlet fever, 5 from "fever" (principally enteric), 3 from whooping-cough, 1 from diphtheria, and 1 from diarrhœa. These 16 deaths were equal to an annual rate of 2·4 per 1000, the zymotic death-rate during the same period being 3·0 in London and 2·1 in Edinburgh. The 6 fatal cases of scarlet fever exceeded the number recorded in any week since November last. The deaths referred to different forms of "fever," which had been 4 and 7 in the two preceding weeks, declined to 5 last week. The 3 fatal cases of whooping-cough exceeded the number in any recent week. The 250 deaths in Dublin last week included 42 of infants under one year of age, and 68 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons exceeded those recorded in the preceding week. Four inquest cases and 1 death from violence were registered; and 102, or more than a third, of the deaths occurred in public institutions. The causes of 12, or nearly 5 per cent., of the deaths in the city last week were not certified.

BRISTOL HOSPITAL SUNDAY FUND.—As the result of the collection on Jan. 30th the sum of £1074 has been received for the Bristol Hospital Sunday Fund.

THE SERVICES.

NAVAL MEDICAL SERVICE.

INSPECTOR-GENERAL OF HOSPITALS AND FLEETS ALEXANDER TURNBULL, M.D. Edin., has been placed on the Retired List.

THE following appointments are notified:—Fleet-Surgeon Christopher Pearson to the *Wildfire*, additional, for Sheerness Dockyard and Naval Barracks. Staff-Surgeons: Horatio S. R. Sparrow to the *Hermione;* and Harold R. Osborne to the *Boscawen* (temporary). Surgeon Richard Stanistreet to the *Hermione*.

ARMY MEDICAL SERVICES.

Surgeon-Lieutenant Marriott, doing duty at Dover, has received orders to embark for India. He is to be succeeded by Surgeon-Major C. W. Thiele. Surgeon-Captain Whitestone is posted to the Station Hospital, Belfast, for duty. Surgeon-Captain Dalton and Surgeon-Major Flood have embarked for service in West Africa. Brigade-Surgeon-Lieutenant-Colonel Steele proceeds to Bristol to assume medical charge of that station. Surgeon-Captain Mould has assumed medical charge of troops and Station Hospital at Lydd.

INDIA AND THE INDIAN MEDICAL SERVICES.

Surgeon-Colonel Hughes, A.M.S., is brought on the Administrative Medical Staff of the Army, vice Surgeon-Colonel Scott, transferred to the Home Establishment. Surgeon-Captain Arnim and Surgeon-Lieutenant-Colonel McCloghry have respectively delivered over and received charge of the office of the Deputy Sanitary Commissioner, Sind Registration District. Surgeon-Lieutenant-Colonel McCalman (Madras) has been transferred by the Secretary of State for India to temporary half-pay.

VOLUNTEER CORPS.

Artillery: 1st Fifeshire: Surgeon-Lieutenant H. W. Laing, M.D., to be Surgeon-Captain. 1st North Riding of Yorkshire (Western Division, Royal Artillery): Surgeon-Lieutenant H. G. O. Collett to be Surgeon-Captain. *Rifle:* 3rd (Morayshire) Volunteer Battalion the Seaforth Highlanders (Ross-shire Buffs, the Duke of Albany's): The under-mentioned gentlemen to be Surgeon-Lieutenants: Donald Graham Campbell, M.B., and John Bruce, M.B.

"THE CASE OF THE ARMY DOCTOR UP TO DATE."

Under this title the *New Century Review* has an article signed by Mr. T. H. S. Escott. In a previous article in the same magazine it was hinted that the real obstacle to the only practicable solution of the problem presented by the deplorable condition of the Army Medical Service was the attitude, "not of Lord Lansdowne, but of his military advisers, and above all, by those obstinate incarnations of British militarism who, because of the admiration their exploits in the field compelled, are mistakenly permitted to assert a power which is wholly mischievous and to which they have no sort of claim in the Council." The present article points out that while there are fewer healers available for our soldiers in the field than ever, the work which these healers have to do is immeasurably greater, more responsible, and more exacting. An Army Medical Corps, after the pattern of the Army Scientific Corps, membership of which should confer substantive military titles, would, the writer thinks, remove every complaint and secure every suffrage. The article concludes: "The object of adequate medical attendance in the Army is to obviate or to minimise human suffering. To dispense with skilled aid for that end would be to relapse into savagery. Yet the increasing lack of reputable doctors for the Army exposes us to something more than a risk of that unfeeling and impolitic retrogression. From Lord Wolseley, the great captain, surrounded by a professional staff steeped in all the unreasoning prejudices of their order, the appeal must be made to Lord Rosebery, the citizen and politician, whose intelligence is not tied down to any procrustean bed of martial prejudices, who, it may be hoped, is still, as when he first became a power in his country, alert of intelligence, free from fettering traditions of caste, nimbly resourceful, quick to perceive the true bearings and the final issues of any subjects submitted to him, and slow only to let himself be an instrument in the hands of those unwise disciples in arms who are now exercising so mischievous an influence over Lord Lansdowne

and who seem to think that professional wrong and national danger are a small price to pay for a vain, a malignant, a purely selfish, and most unpatriotic triumph."

DEATHS IN THE SERVICES.

Fleet-Surgeon Christopher Knox Ord, M.D. Edin., F.L.S., at Lewisham, on March 13th, in his seventy-third year. He entered the Navy in 1847, and served with the Baltic expedition of 1854 on board the *Boscawen*, receiving the Baltic medal. Two years later he was promoted to be Staff-Surgeon. He acted as Surgeon to the Royal Marine battalion sent out for service in Japan, and was present at the bombardment of the batteries at the Straits of Shimoneseki and the capture of the batteries, &c., 1864. In 1869 he was promoted be Fleet-Surgeon and he retired in 1873.

Deputy-Surgeon-General Edmund J. Macgrath, of Kilboron, Co. Clare, on the 5th inst., aged sixty years.

Mr. William Wakefield, M.D., late 6th Dragoon Guards (Carabineers), on March 19th, at Painswick, Gloucestershire.

THE PLAGUE RIOTS IN BOMBAY.

Advices from Bombay state that the strike movement has subsided. It has been proposed that search parties should be abolished experimentally and that all suspicious cases should be reported by the head men of the various communities.

The revised regulations for entry into the Naval Medical Service have now been issued and can be obtained from the Medical Department of the Admiralty.

Correspondence.

"Audi alteram partem."

THE VACCINATION BILL.

To the Editors of THE LANCET.

SIRS,—I think it my duty to draw the attention of the profession to the fact that one of the recommendations of the Commission is wholly ignored in the proposed Bill as just introduced by Mr. Chaplin. The Commission advised, I believe, with general concurrence that State payment for successful vaccinations should no longer be made exclusively to those holding appointments, but that all registered practitioners should be entitled to claim fees for their successful cases on the sole condition of being willing if required to submit such cases to inspection. It would, of course, have followed that all such vaccinations would have to be done according to official directions as regards number of places, &c. These fees were to be payable for re-vaccinations as well as for primary ones. This recommendation had, I think, four very important results in view.

1. It would greatly diminish the number of those who escape vaccination, since it would become the interest of private practitioners, especially amongst the poor, to look up their patients and vaccinate.

2. It would do much to diminish the reluctance of mothers, since the vaccination would be done by the family medical man and not by a stranger.

3. It might be expected to secure better private vaccination, at any rate as regards the number of pocks and the character of scar.

4. It would vastly increase second vaccinations. This is perhaps the most important point of all and it is not in any way provided for in the new Bill. It would become the interest of the whole profession to perform second vaccinations and these would be done without cost to the patient.

The plan recommended would not conflict with the present arrangements, which would, for the present at least, continue as they are. That it would encounter some official opposition is only to be expected, for it would be expensive; but it is surely not fair to suggest that vaccination if thrown open to the profession would be less efficiently performed than at present. Believing that the recommendation to which I refer would conduce more than any other to that end which we all desire—the more complete protection of the community from the risk of small-pox—I am unwilling that it should escape the attention of the profession. It is for the latter to form its opinion and make it known.

I am, Sirs, yours faithfully,

March 16th, 1898. JONATHAN HUTCHINSON.

"THE MIDWIVES REGISTRATION BILL."

To the Editors of THE LANCET.

SIRS,—I am given to understand that a clear statement of the views of the promoters of the Midwives Bill in respect to the assumption of medical titles by registered midwives would be acceptable.

I have not had the opportunity of laying the matter before my committee, but I am certain that I should be acting in accordance with its views in stating that when the matter is before the House no objection would be raised to the insertion of a specific clause to the effect that a midwife registered under the Bill must not assume any medical title such as, for example, L.M.

One other point has been raised—namely, with reference to the right of entry into and supervision over houses belonging to Midwives and utilised for the reception of pregnant women. I am strongly of opinion that the insertion of a clause to this effect would be considered to involve grave interference with the rights of the subject and as such would be in danger of wrecking the Bill. It is surely a question for the police, not for a clause in the Midwives Bill.

I am, Sirs, yours faithfully,

ROWLAND HUMPHREYS,

March 15th, 1898. Honorary Secretary Midwives Bill Committee.

To the Editors of THE LANCET.

SIRS,—Mr. F. R. Humphreys's explanations for the inadequacy of this Bill which he addresses to you in the current issue are really astounding. He claims credit for it as "a genuine attempt to solve a difficult problem." Assuming that it is genuine, then it is a very poor attempt and instead of solving the problem it would make confusion more confounded. One was under the impression that the defective penal clause protecting the title only and not the practice of midwifery was an act of omission instead of one of commission, but evidently this is not so. He says: "Practical legislation is what is wanted, hence no provision to prevent women practising as midwives unless they use certain titles is inserted in the Bill." Practical legislation! Where, then, is theoretical or useless legislation to find a place? He also asserts that "Parliament will not look at a Bill which legalises a monopoly." What? not even when "about 1000 mothers and probably 10,000 children lose their lives annually" under the present system. Mr. Humphreys apparently would be no party to a Bill that would absolutely weed out the future practice of incompetent women, because he seemingly vaguely imagines that by simply saying to the public that certain registered women are provided—just as there have been registered medical men provided, and even by the State, free of cost—this great sacrifice of life would cease. However, before Mr. Humphreys made such statements about Parliament and monopolies he should have verified his facts and have consulted, say, Mr. J. B. Balfour, Q.C., together with Mr. Skewes-Cox, respectively practising members of the so-called higher and lower branches of the legal profession and two of the backers of the Bill, and have asked them what Parliament did last session to legalise a monopoly as from Jan. 1st this year—a monopoly without the redeeming feature of the saving of the lives of "about 1000 mothers and probably 10,000 children," but one which if non-existing would at the worst touch the pockets of a class. It passed a Bill containing a clause providing that persons who *for pay*, not being members of the legal profession, shall draw instruments of transfer (which hundreds of unqualified law clerks could do *without injury to the public* and as a matter of fact do do every day as servants) shall be liable to a penalty of £50. So much, then, for Parliament and monopolies. But Mr. Humphreys, in defence of this same objection to the Bill—that it protects a title so easily evaded and not the practice—in replying to Mr. Garrett Horder, in your contemporary, the *British Medical Journal*, adopts other tactics. He avoids the issue altogether by quoting the words of Sir Walter Foster, M.P., who, referring to another matter before

Parliament, "the Plumbers' Registration Bill, 1897," stated "that they were bound to recognise the members of the trade or profession it was proposed to register who were *practising at the time the Bill was passed*," and the members of the House are reported to have replied "Hear, Hear." To such a statement applied to the Midwives Bill no one, so far as is reported, has raised the slightest objection—indeed, it is provided for in the Bill under discussion by Section 4, "Provisions for existing Midwives," that a midwife who has already been in practice for two years may be registered without an examination, &c. But this is entirely a different point to the one he is there attempting to discuss and I repeat that he deliberately is evading the issue.

Again, Mr. Humphreys admits that "it is perfectly true that the use of such a title" as Licentiate in Midwifery "is not expressly forbidden in the Bill," and let us mark well the reasons he gives that it is not so prohibited: "for it would then be merely a question of evading terms." If this strikes Mr. Humphreys as a cogent reason for the non-protection of a title belonging to the profession of which he is a member does it not strike him also of the absolute absurdity of attempting to "solve a difficult problem" by a Bill which to nullify in practice is "merely a question of evading terms." Mr. Humphreys has evidently yet to learn that specious fallacies are not arguments or facts. Has he ever heard, I wonder, of the expression "driving a coach and four through an Act of Parliament." If not I would refer him to the words of that profound thinker, Herbert Spencer, who in denouncing immature, ill-considered, and ill-devised legislation, says, in effect if not in the actual words, that no prophecy is more safe than that the results anticipated by such legislation will be vastly exceeded in amount by the results never anticipated.

But, to resume the exact point and to follow Mr. Humphreys in his context, he goes on to say: "Clause 5 *(f)* places the approval of 'the rules for regulating, supervising, and restricting within due limits the practice of midwives' in the hands of the General Medical Council." True, the section does this with regard to *practice* but, be it noted, nothing is provided either in this section or in any other of the Bill for "rules" to restrict the use of midwifery titles by registered midwives. Then he proceeds: "The assumption of title would prove at once that the midwife who assumed it intended to step beyond the province assigned to her" and "therefore she would at once be liable to be struck off the register." This explanation is, of course, Mr. Humphreys's own; the words speak for themselves. According to him assumption of a title by a registered midwife against which there is no penal provision in the Bill would be conclusive proof of an intended misdemeanour in practice and therefore punishable as an actual misdemeanour. This free-and-easy manner of prejudging and assuming guilt might be very convenient, but the laws of England are not administered in this grotesque manner; with such clouded ideas of legal procedure one can well imagine what a slight conception Mr. Humphreys has as to the true requirements of a good act of Parliament.

If Mr. Humphreys will provide a list of the results he anticipates from such an invertebrate measure I will venture to provide him with a list of results which he possibly never anticipates. I am, Sirs, yours faithfully,

Leeds, March 14th, 1898. J. H. WIGHAM.

"A RARE TRANSPOSITION."

To the Editors of THE LANCET.

SIRS,—Mr. W. H. Brown reports a case of transposition of the heart only and he concludes by remarking that he has not met with records of a similar condition. May I call his attention to a case which, except for the cyanosis and the dyspnœa, corresponds with the one he has reported? The patient was shown at the Leeds and West Riding Medico-Chirurgical Society by Dr. Wardrop Griffith on April 30th, 1897, and the case is reported in THE LANCET of May 29th, 1897. I am, Sirs, yours faithfully,

Weymouth-street, W. CHAS. W. CHAPMAN.

To the Editors of THE LANCET.

SIRS,—"Anatomist," in THE LANCET of March 12th, asks for further details in the matter of the instance of transposed heart. The circumstances under which the examination had to be made prevented my securing the specimen, otherwise I should have brought away the contents of the thorax for dissection. *The aorta turned to the left. The cavities of the heart were in their ordinary relations. The heart was placed at its usual level* so far as the spinal column was concerned. I fear that I cannot add any further information to the above meagre description. I am, Sirs, yours faithfully,

W. H. BROWN.

Queen-street, Leeds, March 14th, 1898.

MR. VICTOR HORSLEY AND THE GENERAL MEDICAL COUNCIL.

To the Editors of THE LANCET.

SIRS,—All those who have at heart the maintenance of cordial relations between medical men of different countries owe a debt of gratitude to Mr. Victor Horsley for the leading part he has taken in inducing the General Medical Council to write its second letter to the Privy Council. More than once during recent years erroneous impressions created abroad by the publication of certain speeches made on the General Medical Council have had to be corrected privately, and it was high time that a clear and accurate statement should be made. It is to be hoped that the first letter has now been withdrawn, for the discrepancies between the two official documents would appear still more perplexing and unaccountable abroad than here. Someone has made—and not for the first time—a serious blunder, the repetition of which should be prevented.

I am, Sirs, your obedient servant,

Harley-street, W., March 14th. J. KESER.

"THE TESTIMONIAL TO DR. ARLIDGE."

To the Editors of THE LANCET.

SIRS,—Your kindness in publishing the lists of subscribers to the testimonial to Dr. J. T. Arlidge induces me to ask you to notice the result of the subscriptions so kindly placed in my hands. This sum, with some additional subscriptions received by the Manchester and Liverpool District Bank and by Mr. Folker, enabled the committee to present Dr. Arlidge with an illuminated address and a handsome gift of plate. The medical faculty and the committee of the North Staffordshire Infirmary have presented Dr. Arlidge with a full-sized portrait in recognition of his long and valued services as physician and subsequently as consulting physician to that important institution and it has now been placed in the board room of the infirmary.

I am, Sirs, yours faithfully,

CHAS. F. MOORE.

Upper Merrion-street, Dublin, March 14th, 1898.

"THE HEAT OF THE INCANDESCENT ELECTRIC LAMP."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of March 12th there appears an interesting and useful annotation on the above subject. In further illustration of the point I venture to refer to an apparatus for cooking or other purposes where the heat is produced by broad-filament incandescent lamps with a reflector of special construction. A thermometer placed midway between two such lamps twelve inches apart quickly registers 350° F. The temperature can be regulated by a rheostat or by adjustment of the reflectors. Such an apparatus adapts itself admirably to medical uses and where dry heat at a very high temperature is indicated I never use any other method of obtaining it. By means of such an arrangement heat may be localised upon any particular limb or organ or applied to the whole surface of the body. It is easy to show that in order to obtain the most intense heat rays the heat-producing source ought to be of a luminous character, and by far the best means of securing high temperatures with luminosity is the electric light. Here

heat is produced without combustion and the many disadvantages that accompany the latter.[1]

I am, Sirs, yours faithfully,

Mansfield-street, W., March 11th, 1898. W. S. HEDLEY.

MEDICAL REFORM.

To the Editors of THE LANCET.

SIRS,—I fail to see the benefit or wisdom of the startling headings "Battle of the Clubs" so constantly appearing in our medical journals and I venture to think that a large proportion of your readers would rejoice at the discontinuance of this belligerent term. It cannot be productive of any good and must, I fear, tend to prolong an unmerited feeling of animosity against the profession in the minds of all club worshippers, who are always well posted with these paragraphs. We maintain the justice of making public the various errors perpetrated by the so-called medical aid and other societies and clubs and our chief aim now should be how best to elevate the tone of the coming practitioner. Two essential features demand consideration—reform of preliminary examination and the institution of the one-portal system, and I would suggest that these subjects should be set down for discussion as early as possible by every medical society throughout the land, when a concentration of the results should bring weight of evidence sufficient to move the General Medical Council to prompt and energetic action.

I am, Sirs, yours faithfully,

March 15th, 1898. S. STRETTON.

A FLAGRANT CASE.

To the Editors of THE LANCET.

SIRS,—My late unqualified assistant has opened a shop not five hundred yards from my surgery. He purposes vending drugs, instruments, &c., as well as prescribing for and dispensing medicines to anyone seeking his advice at his shop. I also understand he is to visit cases at their own houses and attend midwifery. Can I adopt any means to prevent his doing so? It seems hard on general practitioners that they are liable to have their names erased from the Register by the General Medical Council for employing unqualified men without giving them the means of protecting themselves from those pirates. I enclose my card.

I am, Sirs, yours faithfully,

March 15th, 1898. A VICTIM.

*** If the unqualified assistant sells drugs or falsely pretends to be a registered medical man he can be prosecuted. Otherwise in the present state of the law no more can be done against him than against any other quack.—ED. L.

THE PLAGUE IN INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

THE weekly death-rate for the city of Bombay still keeps terribly high. For the past seven days 2059 deaths have been recorded, giving a rate of over 130 per 1000 per annum. Of this number 1500 may be put down to plague. There are some slight indications, however, of improvement in the plague mortality. The type of the disease still keeps extremely virulent. The operations of the Plague Committee have provided for large numbers of the people being temporarily turned out of their infected houses and given quarters in camps. It cannot be expected, however, that 10,000 or 15,000 thus isolated would make much impression among a population of 900,000 people, and it is worthy of note that last year, when segregation of the healthy and infected was not resorted to, the mortality was less than it has been this year. On the other hand, a voluntary exodus of people to the estimated number of 300,000 took place last year, which may have reduced the actual number of those attacked if it had no effect on the duration of the epidemic. Large numbers of the well-to-do, estimated at 12,000 people, have this year moved to bungalows or temporary sheds in the suburbs within the island. It is probable, therefore, that this clearing of the population from certain districts, together with the other measures adopted by the Plague Committee, will soon have some effect on the number of cases and consequently on the death-rate, although it is impossible to estimate how much of a decline may be due to the sanitary measures adopted and how much to a natural subsidence of the epidemic.

Another European nurse, Miss McDougal, has unfortunately died from the plague. It is stated that one of her delirious patients expectorated on to her face and that some of the sputum entered her eye. Inflammation followed the next day, with subsequently enlargement of and infiltration around the parotid and cervical glands. It has been noted that cases in which these glands become affected are almost invariably fatal.

Strong representations are being made in the local press that, with the published results of M. Haffkine's inoculation so unmistakeably proving its advantages, all those who are brought in immediate contact with the sick should not only have every opportunity given them to be inoculated, but should be urged by the authorities to go through the operation. The Government, however, still refrain from even advising those under them to go through the process, and the Plague Committee still continue to abstain from giving it any support.

Nothing further has been discovered with regard to a curative serum. The preparation now being further tried, which was made on the lines of the curative serum for diphtheria, does not show any distinct advantages. There are many cases in the fever hospital showing relapsing fever and plague occurring in the same individual. This is not only distinctly shown by clinical evidence but also by bacteriological examination. The symptoms of plague seem to be somewhat subdued by their association with relapsing fever, and the prognosis in these cases seems better than in those of plague alone.

A fire broke out in one of the temporary plague hospitals resulting in the death of three patients from the exertions attending their hasty removal. Some of the European nurses greatly distinguished themselves by their efforts to save the patients from the rapidly burning sheds, but unfortunately lost all their baggage by the destruction of a wooden building specially allotted to them.

Feb. 24th.

PROSECUTION OF A QUACK AT THE BLACKBURN COUNTY COURT.—On Monday, March 7th, before Judge Coventry, J. Tempest was sued by the Apothecaries Society of London for the sum of £20, the penalty for acting as an apothecary without having previously obtained a certificate as required by the Apothecaries' Act of 1815. For the plaintiffs it was stated that defendant had practised in the Oswaldtwistle district for the past two or three years, purporting to practise under an American diploma, and had issued pamphlets and handbills in which he described himself as a properly qualified man. The words "Dr. Tempest" were painted on the lamp over his door. In the defendant's examination it was elicited that he was "a fellow of the London college of safe medicine." Judge Coventry fined the defendant £20, but leave to appeal was given.

BIRKENHEAD MEDICAL SOCIETY.—At a meeting on March 11th, Dr. R. S. Marsden, President, being in the chair, Dr. Edgar Stevenson read a short paper on the Eye Complications of Influenza, drawing attention to the chronic nature of any eye affection which might occur during, or be precipitated by, an attack of the disease, and inviting a discussion on the nature of the headache which is so prominent a feature of almost every case. He also read notes of a remarkable case of optic neuritis occurring after influenza, and gave his reasons for considering that the lesion in these cases was more likely to be due to a form of cerebritis than to meningitis. An interesting discussion ensued, in which the following gentlemen took part:—Dr. Harris, Dr. Pinkerton, Mr. Harrington, Dr. Carden Pearson, Mr. Wilkinson, Dr. Dixon, Dr. Lambert, and the President. Dr. Stevenson replied.

[1] These points were brought forward by me in a recent communication to the Balneological Society, when the apparatus was shown. It is devised and constructed by Mr. H. J. Dowsing, 24, Budge-row, Cannon-street.

Obituary.

SIR RICHARD QUAIN, BART., M.D., F.R.C.P. LOND., F.R.S.,

PRESIDENT OF THE GENERAL MEDICAL COUNCIL; PHYSICIAN EXTRAORDINARY TO HER MAJESTY THE QUEEN; CONSULTING PHYSICIAN TO THE HOSPITAL FOR DISEASES OF THE CHEST, BROMPTON, AND TO THE SEAMEN'S HOSPITAL, GREENWICH.

THE medical profession will share with us our deep regret at the death of Sir Richard Quain, the venerable President of the General Medical Council, which occurred on Sunday last, March 13th, at his residence in Harley-street.

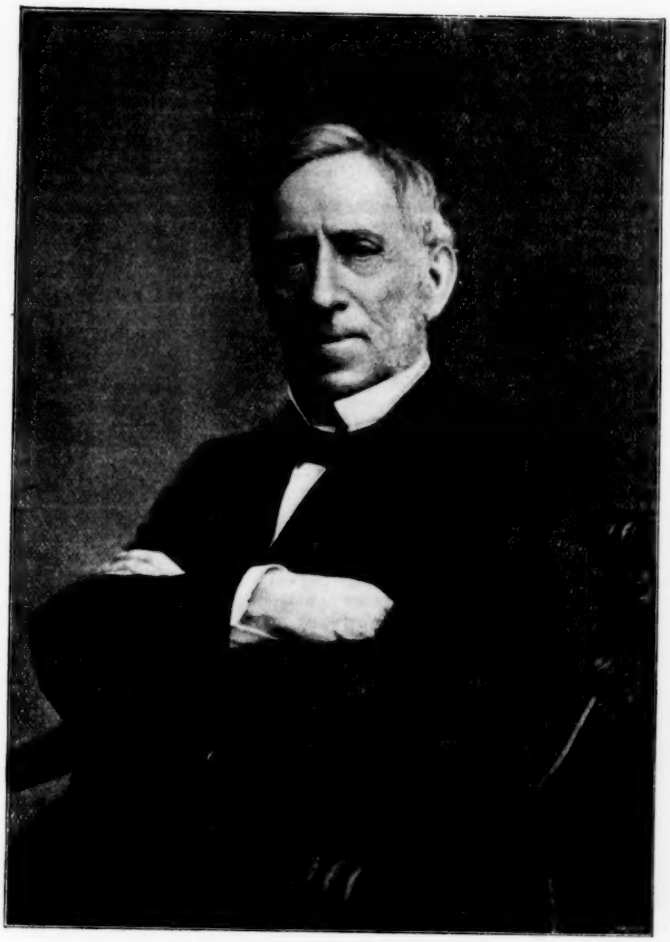
Richard Quain was born on Oct. 30th, 1816, at Mallow-on-the-Blackwater, co. Cork, a market town of some importance in the northern portion of that county. The Quain family, which produced three such eminent members of our profession as Jones Quain, the anatomist, Richard Quain, the surgeon, and Richard Quain, the subject of our present biography, had long been one of the best-known and respected families in the county of Cork. Sir Richard Quain's father, John Quain, was the younger brother of Richard Quain, of Ratheahy, whose three sons, Jones Quain, Richard Quain, and John Richard Quain, were destined to make their mark, the two former as exponents of anatomy and surgery and the latter as a lawyer and finally as a judge in the Court of Queen's Bench. John Quain, the father of the distinguished physician whose death it is our sorrowful duty to record, was married in 1815 to Mary, the daughter of Michael Burke, of Mallow, whose mother was the great-grand-niece of Bishop Burnet, Lauderdale's famous rival, who had the honour of performing the coronation ceremony of William and Mary. The Burkes of Mallow were among the most ancient branches of one of the most honoured families in Ireland, so that young Richard Quain could lay claim to honourable if not absolutely historic ancestry on both sides. After receiving his early education at the diocesan school at Cloyne, in the same county as his home, Mallow—for his father, John Quain, of Carrigoon, had removed to Mallow on his marriage—he turned his attention to the profession of medicine, probably animated thereto by the example of his cousins, who had both by this time earned distinction as teachers of anatomy—Jones Quain at Mr. Tyrrell's school in Aldersgate and Richard Quain at University College, London, where he succeeded Bennett, an old Irish friend of the family, as demonstrator of anatomy. In pursuance of this design Mr. John Quain apprenticed his son Richard to a respectable apothecary of Limerick, in whose service he saw and observed much that was useful to him in his after career. This period of his life was spent in the typical routine of an open surgery or "doctor's shop" of the early part of the present century; his master, being an apothecary before the Act of 1815, appears, like most provincial practitioners of his class, to have had several—at any rate two or three—apprentices. Having thus acquired an insight into the essentials of general practice Richard Quain in 1837 proceeded to University College, London, where his two cousins Richard and Jones, his seniors by sixteen and twenty years respectively, held the responsible posts of demonstrator and professor of descriptive and practical anatomy. To the teaching of these two men he owed much, and not to their teaching only but also to their warm-hearted sympathy. They both took the greatest interest in their young cousin's studies and were proud of his successes. Thus it was under the most favourable conditions that Richard Quain became a pupil at perhaps the most ably administered institution of the time, such men as Anthony Todd Thompson, Samuel Cooper, Robert Edward Grant, Sir Robert Carswell, Liston, Elliotson, and Erasmus Wilson (then a rising young anatomist) being members of the teaching staff. As a student Richard Quain showed the greatest diligence combined with most acute powers of observation and won many distinctions. His buoyant Irish nature and native wit made him very popular with his fellow students, among whom there were many who became his life-long friends. He was but two years the senior of John Erichsen and was also a contemporary with C. J. B. Williams and Professor Sharpey, who were his predecessors by a little, and with Edmund Parkes, John Marshall, and Russell Reynolds, who were his juniors. In 1840 he graduated M.B. of the University of London, gaining the scholarship and gold medal in physiology as well as taking honours in surgery and midwifery. He thereupon became house-surgeon at University College Hospital; this post he held for a year, and at the end of that time became house-physician, a position which would now be best described by the term "resident medical officer;" in the labours of this office he remained for five years, during which time he accumulated much valuable knowledge. University College Hospital was at this particular period doing far more than its share of casualty work, it being the nearest institution to the great centre of railway constructing enterprise in its most busy period, for the great North-Western line was in process of continuation to London and the influx of north-country labourers and engineers made an enormous difference to the number of the working population of the district tended by the hospital. During his tenure of the office of house-physician—namely, in 1842—he passed his examination for the degree of M.D., obtaining honours in medicine. He received a gold medal and a certificate of special proficiency and was next year elected a Fellow of University College.

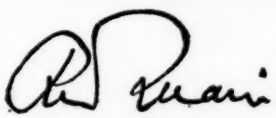
In 1848 he was elected assistant physician to the Hospital for Diseases of the Chest at Brompton, then a comparatively new institution. Among his colleagues when he began his long connexion with the Brompton Hospital were Dr. Walshe, Dr. Theophilus Thompson, and Dr. Cotton. In 1855 he became a full physician to this institution, and from 1875 until the time of his death he was a member of its consulting staff. It does not fall to the lot of many hospitals to have the services of so eminent and successful a physician for a period of fifty years and for more than half of that time his assiduous and active help. He was likewise for many years consulting physician to the Seamen's Hospital at Greenwich and to the Royal Hospital for Consumption at Ventnor.

His connexion with the Royal College of Physicians of London was long and intimate and it is there that his familiar figure will perhaps most greatly be missed. In 1846 he became a Member and in 1851 a Fellow of that body and identified himself closely with its conduct. The offices he there held were Member of Council and Censor in the years 1867, 1868, and 1882, Lumleian Lecturer in 1872, Senior Censor in 1877, Harveian Orator in 1885, and Vice-President in 1889. In 1888 he narrowly escaped succeeding Sir William Jenner as President, but Sir Andrew Clark was finally elected.

Perhaps amid the multifarious public work of the profession in which Sir Richard Quain found a field for the employment of his great energy and experience none was more congenial than that of the General Medical Council. It is scarcely within the memory of living men to think of the General Medical Council without the association of Sir Richard, or rather Dr., Quain. He was not indeed a member at the very beginning. He was elected as a Crown Nominee in November, 1863, and took his seat in 1864. From that time to the time of his death he continued to be a Crown Member, having been seven times appointed, and was throughout most actively associated with the principal work, both general and in committee, of the Council. It is noticeable that at the time of his death no individual who was a member of the Council at the time when he joined it in 1864 is alive except Sir Henry Acland. He had scarcely taken his seat in 1864 when he was elected to the Executive Committee. He was made trustee of the English Branch Council at this time. In the same year he was placed with Dr. Christison, Sir James Clark, Dr. Thomas Watson, Mr. J. H. Green, and others, on the Pharmacopœia Committee. He became chairman of this committee in the year 1874, and continued so till his death. It may be said that the Pharmacopœia was his peculiar care and the Pharmacopœia Committee his favourite committee, and probably those who knew him best would say that his chief anxiety was to retain his connexion with the Council till the appearance of the new Pharmacopœia, in the preparation of which he took special interest.

But though the Pharmacopœia Committee was perhaps his favourite one he was very active in several other committees. He was chairman of the Executive Committee, of the Dental Committee, and of the Penal Cases Committee. In all of these, as well as in the proceedings of the General Council and of the Branch Council for England, he took the most active and business-like interest. Moreover, incessant attention is required from the president in the long intervals





between the sessions to details of business in connexion with the office and the preparation of the Register. At times this work was most exacting, as in the years of the election of Direct Representatives and at the time when the Council was negotiating for the possession of its present premises and when these were undergoing complete reconstruction. On all such occasions it was remarkable to notice how familiar with details the late president was and how clear was his memory on all subjects. He was no merely passive president, for he took an active part in the business of all the committees of which he was a member, and even in the discussions of the Council reserved to himself the right both of expressing his views strongly and of recording his vote. Opinions will differ as to the merit of the views he held and the votes he gave on different subjects, but all will admire the grip which he had of the Council's business and the shrewd estimate which he formed of the Council's position in relation to the State and the Crown on the one hand and to the medical profession on the other. Sir Richard Quain's presidency began in 1891, following that of the late Mr. John Marshall who died in that year. On the expiration of his first term of office in 1896 he was re-elected unanimously. The addresses with which he opened the sessions of the Council may be consulted with advantage as records of the questions engaging the attention of the Council and of the practical and statesmanlike views which he took and which were generally sustained by the after-history of subjects. He was not eloquent; occasionally there was even a lack of breadth and dignity in his presentation of a subject. But, nevertheless, he will remain and be remembered as one of the most active, devoted, and efficient presidents the General Medical Council has had, though his predecessors were Sir Benjamin Brodie, Joseph Henry Green, Sir George Burrows, Sir George Edward Paget, Sir Henry Acland, and John Marshall.

Richard Quain was in 1865 appointed a member of the Royal Commission to inquire into the Nature, Causes, and Methods of Prevention of the Rinderpest or Cattle Plague which was then devastating many cattle-rearing districts, and as to the pathology and causation of which very little definite knowledge had up to that time been obtained. Among his colleagues were Lord Spencer (chairman), the present Prime Minister who was then Lord Cranborne, Lord Sherbrooke (better known to history as Mr. Robert Lowe), Lord (then Dr. Lyon) Playfair, Dr. Edmund Parkes, the famous sanitarian and physician, and Dr. Henry Bence Jones. In the valuable transactions of this Royal Commission Quain took a very prominent and useful part; in fact, for several months the question occupied almost his entire time. The whole matter was gone into most exhaustively by the Commission and not the least searching and pregnant questions were those addressed by Dr. Quain to the various veterinary and medical witnesses. He throughout this inquiry showed himself an excellent and logical cross-examiner. Among the medical witnesses called were Dr. Burdon Sanderson, who made an exhaustive report describing his experiments; Dr. Marcet; Dr. John Syer Bristowe; and Dr. Lionel Beale, who conducted the microscopical portion of the inquiry. It is not surprising that after hearing the evidence adduced during the long sitting of this Commission Dr. Quain should have sided with the section who desired the extermination of the plague "at any price." This was the view of the majority, but throughout the country there was an opinion, founded on insufficient data, that too high a price might be paid even for the stamping out of this fearful disease. This section of public opinion found its spokesmen on the Commission in the persons of Earl Spencer, Lord Cranborne, Mr. Clare Sewell Read, and Dr. Bence Jones. The majority included Mr. Lowe, Dr. Lyon Playfair, Dr. Richard Quain, and Dr. Edmund Parkes. Dr. Quain's work on this Commission very thoroughly justified his appointment and his letters to the *Times* and his articles in the *Saturday Review* went far indeed to change public opinion on the whole matter. The voice of the public at large was at first very strongly raised against the "stamping out" recommendations of the Commission. These recommendations, as Dr. Quain ably pointed out, would ultimately save many millions of pounds to the country, and the event has proved the correctness of his views. In the conduct of Royal Commissions of Inquiry perhaps the most essential detail is the arrangement of the method and scheme of the investigation. For this portion of the work of this most successful inquiry Richard Quain was in great measure responsible. In the third report of this Commission there were a number of valuable drawings illustrating the pathology of the disease and these were at the instance of Quain presented to the Royal College of Physicians of London.

As a journalist he was a frequent contributor to the *Saturday Review* and in early days a regular leader writer on THE LANCET. Outside journalism the literary works of Sir Richard Quain if small in quantity are great in utility. His first important essay was a dissertation on "Fatty Diseases of the Heart," which is to be found in the Royal Medical and Chirurgical Society's Transactions for 1850 and which formed the basis of the able and exhaustive article on the same subject which he contributed to the great Dictionary of Medicine which he edited many years afterwards. He likewise in conjunction with other members of the staff of the Brompton Hospital for Consumption compiled the reports for several years of the cases treated in that institution. Early in his career at University College Hospital he published two interesting contributions, one in THE LANCET (1845)[1] on "Bright's Disease of the Kidneys," and the other in the *Edinburgh Monthly Journal of Medicine* on "Injuries to the Valves of the Heart." His Lumleian Lecture delivered before the Royal College of Physicians of London in 1872 dealt with the subject which is particularly associated with his name—the Diseases of the Muscular Walls of the Heart.

His next in point of date, and undoubtedly his greatest, work, the well known "Dictionary of Medicine," in the editing and arrangement of which the leisure time of several years between 1875 and 1882 was spent, appeared in 1882. Since Copland's "Dictionary of Medicine," which appeared in parts, commencing in 1844 and terminating in 1858, scarcely a generation had passed, yet the strides of medical science had been so very great that the work of Dr. James Copland had become quite out of date and since its appearance no work arranged in the convenient form of a dictionary of medical science had appeared. Reynolds's "System of Medicine" had been published in the meanwhile and its volumes contained a mine of valuable matter from the pen of its editor and other recognised medical authorities, but the System was not intended to be an encyclopædic book of reference. Quain's Dictionary of Medicine as it first appeared consisted of one bulky volume of 1800 pages and was the joint work of a very large number of prominent medical writers, Dr. Quain himself and his editorial coadjutors, Dr. Frederick Roberts and Dr. Mitchell Bruce, contributing largely and adding the shorter articles unsigned. Among the authors who contributed to the first edition and whose loss we have had to deplore since the Dictionary appeared are Sir J. Risdon Bennett, Dr. John Syer Bristowe, Sir George Buchanan, Dr. Matthews Duncan, Dr. Langdon Down, Dr. Murchison, Dr. Brown-Séquard, and Dr. Edmund Parkes. The work admirably filled the want long felt by the medical profession of a thoroughly convenient and at the same time exhaustive book of reference. It had the additional advantage of being thoroughly brought up to the knowledge of the day, for, as its editor remarked in the preface, although it occupied some years in production each part of it was so arranged as to permit of alteration and addition up to the very time of going to press. The editor's own articles chiefly dealt with affections of the heart. That on Fatty Degeneration of the Heart, founded in great measure on his paper contributed to the Royal Medical and Chirurgical Society in 1850 is perhaps the mostnotable of them. Sir Richard Quain's faculty for the arrangement of facts in such order as to convey them to the mind of the reader in a succession which makes the whole train of reasoning symmetrical is particularly noticeable in this essay, and it is also traceable to but little less an extent in the articles on "Angina Pectoris," "Aneurysm of the Heart," "Diseases of the Bronchial Glands," and in the general remarks on "Disease."

In 1885 Dr. Richard Quain delivered the Harveian Oration at the Royal College of Physicians, taking for his subject "The Healing Art in its Historic and Prophetic Aspects." He commenced by briefly quoting the adverse remarks that had been made as to the progress of medicine as a science by such men as Hoffmann, Gregory, and Sir William Hamilton. In refutation of the statements of these and other great men he cited many curious and occasionally amusing instances of the extraordinary superstitions with regard to medicine and surgery from which humanity had

[1] THE LANCET, Nov. 29th, 1845, p. 594.

but recently freed itself. In a valuable appendix he mentioned such ridiculous cases as that of the woman of Godalming who was alleged to have been delivered of litters of rabbits and who was believed in even by some of the faculty in the days of George I.

In 1887 the Royal University of Ireland conferred upon him the honour of an M.D. *Hon. Causâ* and in the same year the Royal College of Physicians of Ireland made him a Fellow of their Corporation, and in 1889 he was honoured with the degree of Doctor of Laws of the University of Edinburgh. In addition to these honorary degrees he was made a Doctor of Medicine of the University of Dublin in 1890, in which year also he was appointed Physician Extraordinary to Her Majesty the Queen. He was a Fellow of the Royal Society (elected in 1871); a Fellow of the Statistical Society; a Fellow and late President of the Royal Medical and Chirurgical Society; a Fellow of the Royal Botanical Society; a member and late President of the Pathological Society of London, to the Transactions of which he made several valuable contributions; a member and late President of the Harveian Society of London; and a member of the Senate of the University of London, selected by the Queen in 1860.

On New Year's Day, 1891, Her Majesty conferred upon him the well-deserved honour of a baronetcy of the United Kingdom.

Richard Quain married in 1854 Isabella Agnes, the only daughter of Mr. George Wray, of Cleasby, in Yorkshire, who, however, did not live long to enjoy the titular distinction which her husband had earned, for, to his profound grief, she died within a few months of the conferment of the honour. The baronetcy becomes extinct with his death as Sir Richard Quain leaves no son. Four daughters, however, survive him.

To few men in our profession has the gift of every characteristic that calls forth the affectionate esteem of their brethren been so liberally vouchsafed as to Sir Richard Quain. His genial presence and his brilliant power of saying epigrammatic things, and saying them with the true humorous instinct of his race, made him ever popular; while his wide sympathies and unvarying kindness gave him in the eyes of those who had the privilege of personal relations with him something more true and permanent than social popularity, the affection of his younger brethren in the profession of medicine.

Sir Richard Quain's funeral took place on Wednesday afternoon at the Hampstead cemetery, in the presence of a large and distinguished assembly of patients, friends, medical men, and official representatives of various public bodies with which the deceased physician was connected.

KESTER EDWARD KNIGHT, M.R.C.S. ENG., L.S.A.

BY the death of Mr. K. E. Knight, which occurred at his residence, 41, Waverley-road, Southsea, on March 10th, after a painful illness, which extended over a period of about three months, Portsmouth has lost its oldest and one of its most valued medical practitioners. Mr. Knight was in practice in that town for nearly sixty years. He was born at Stedham House, near Midhurst, Sussex, where his father owned a large estate, on Jan. 18th, 1814, and he had thus attained the ripe age of eighty-four years. He belonged to a family remarkable for health and longevity and inherited a thoroughly vigorous constitution. His father lived to seventy-eight years, his mother to eighty-nine years, and of twelve children four lived to seventy-nine years, or over. He received his medical education at University College Hospital and became a Licentiate of the Society of Apothecaries in 1837 and a Member of the Royal College of Surgeons of England in 1838. After holding the house-surgeoncy at the Chichester Infirmary he commenced practice in Portsmouth about the year 1838. He was appointed surgeon to the Royal Portsmouth Hospital in 1857 and held that office for twenty-five years, and when he retired in 1882 he was unanimously elected by the Board of Management to the complimentary office of consulting surgeon, which he held to the end of his life. Thus from first to last he was connected with the Portsmouth Hospital for over forty years. His portrait was taken at the request of his colleagues, by whom he was very highly esteemed, and is hung in the board room of the hospital. His presence was good and calculated to inspire confidence; tall, somewhat spare, he bore well his eight decades of life. As an operator he was calm, cautious and deliberate and possessed much manipulative skill. At one time he had a large obstetric practice and he kept a record of over 5000 cases which he had attended. He took a keen delight in manly sports; in his younger days he was a good shot, a capital cricketer and quite at home in the saddle across country with the hounds. He was the senior Freemason not only in Portsmouth but in Hampshire. He had a wonderfully retentive memory and in 1897 (when in his eighty-third year) he published a little book containing his reminiscences of the early life of the Queen. Mr. Knight never married. Kind-hearted, considerate, and unselfish, a man of much professional ability, his loss will be keenly felt by many friends to whom his kindly spirit had endeared him.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Theophilus Parvin, formerly Professor of Midwifery and Gynæcology in Jefferson Medical College, Philadelphia.—Dr. Edward Constant Seguin, formerly Professor of Neurology in the College of Physicians and Surgeons, New York.—Dr. Geo. C. Briggs, formerly Professor of Materia Medica in the University of Vermont.—Dr. Carlos de Siloniz y Ortiz, Professor of Anatomy in the Barcelona Medical School.—Dr. Charles Nicolas, Extraordinary Professor of Hygiene in the University of Lausanne.—Dr. Gayraud, formerly *Professeur Agrégé* in the Montpelier Faculty of Medicine.

HOSPITAL ABUSE.

(BY OUR SPECIAL COMMISSIONER.)

XIV.—GLASGOW *(concluded)*.[1]

DR. ERSKINE has carefully worked out the figures showing the enormous increase of indoor and outdoor patients in recent years. In the wards of the thirteen charitable hospitals of Glasgow, large or special, 15,169 in-patients were treated in the year 1894–95. The number of out-patients at the same institutions was 76,593. The total of the two classes of patients was therefore 91,762, or 109 per 1000, counting the population according to the extended boundaries at 840,000. To this must be added 30,831 patients who were recipients at the purely outdoor charities and we reach the figure of 122,593, or 145·9 per 1000. The outdoor and indoor patients of all the medical charities, hospitals, infirmaries, convalescent homes, homes for the infirm and incurable, &c., amounted to 135,447, or 161 per 1000. In other words, one out of every six persons received aid from medical charities in the year. Taking the insane and the patients treated indoors at the parochial hospitals and asylums the total for the year was 12,643, or 15 per 1000, as opposed to 24,649, or 19 per 1000, indoor patients of the hospitals supported by subscriptions. But then there were also 6403 patients treated for infectious diseases in the municipal fever hospital, or 7·6 per 1000. Adding these fever cases to the other cases the total proportion treated at the public expense was 22·6 per 1000 as opposed to 29·3 per 1000 treated by charity, and the two systems taken together give in round figures 52 per 1000. But this estimate, of course, only applies to in-patients. To show the enormous increase that

[1] The previous articles on this subject were published in THE LANCET on the following dates: (1) Sept. 26th, 1896, Plymouth and Devonport; (2) Oct. 10th, 1896, Exeter; (2 *concluded*) Oct. 17th, 1896, Exeter; (3) Oct. 31st, 1896, St. Thomas's Hospital, London; (4) Nov. 14th, 1896, Liverpool; (4 *continued*) Nov. 21st, 1896, Liverpool; (4 *concluded*) Dec. 12th, 1896, Liverpool; (5) Jan. 2nd, 1897, Manchester; (5 *continued*) Jan. 9th, 1897, Manchester; (5 *concluded*) Jan. 23rd, 1897, Manchester; (6) Feb. 6th, 1897, Leeds; (6 *concluded*) Feb. 13th, 1897, Leeds; (7) April 17th, 1897, Coventry; (8) May 1st, 1897, The Royal London Ophthalmic Hospital; (9) May 8th, 1897, France, United Action and Legislative Action; (10) May 15th, 1897, Leicester; (11) June 5th, 1897, Nottingham; (12) July 31st, 1897, Birmingham; (12 *continued*) Aug. 14th, 1897, Birmingham; (12 *continued*) Sept. 4th, 1897, Birmingham; (12 *concluded*) Sept. 18th, 1897, Birmingham; (13) Oct. 30th, 1897, Southampton; and (14) March 5th, 1898, Glasgow.

these figures represent Dr. Erskine calculates that at the Royal and Western Infirmaries 6654 patients were treated in 1874, or 1 in every 71 of the population. In 1884 the figures were 8728, or 1 in every 58. In 1894 the number of patients increased to 10,081, or 1 in 56, an augmentation of more than one-half in the twenty years, though the population only increased by one-fifth. At the Maternity Hospital the number of patients rose from 1291 in 1874 to 2836 in 1894, an increase of more than 2 to 1, while the population only increased 1 to 5. At the Eye Infirmary there were 4157 patients in 1874 and 15,267 in 1894, a four-fold increase. Such, statistically, is the grievance with which the profession has to contend in Glasgow. It seems undeniable that the number of persons who now resort to hospitals has immensely augmented.

Speaking on this subject to one of the medical men who is a member of the board of management of the Western Infirmary I did not find any disposition to recognise that the grievance was particularly urgent. He acknowledged that cases which were suitable medically were admitted without any inquiry as to social position. Complaints certainly had been made as to abuse among the out-patients, but "this was not a burning question." At the Western Infirmary threats had been made with regard to instituting an inquiry concerning the financial position of some of the patients, but this was not carried out for fear of offending the workmen subscribers. Indeed, the directors of the Western Infirmary, referring to this matter, said: "They thought it better to face the risk of admitting a few undeserving cases rather than that the susceptibilities of thousands of deserving working men and women who had subscribed for years should be hurt in their hour of need by what they consider offensive investigation into their means." The building of grand palatial hospitals with "professors" in attendance, tended to attract persons of a higher class. If dispensaries were put in a poor locality there would be less abuse. My informant urged that there was a psychic cause for abuse. The Victorian Infirmary was a beautiful place overlooking a large park, but they had opened a dispensary for out-patients in a poor district and there no abuse occurred, whereas at the hospital itself there was some abuse. Country people especially came to get a second advice as against that which they had obtained from their local medical man. Very often they only saw a student, but they went back to their village impressed with the idea that they had been advised by "the professor." A practitioner from the outskirts of Glasgow was on one occasion acting as visiting physician at the Western Infirmary when one of his private patients was introduced. He had come up to Glasgow for hospital advice.

Calling at the Western Infirmary I was informed that the clerk made inquiries about the income of patients only after they had received medical advice and when they asked for medicine. Many patients, however, avoided this inquiry by walking out of the hospital with their prescription and having it made up by a dispensing chemist. It was only in very exceptional cases, when patients were particularly well dressed, that questions were asked before they obtained advice.

At the Royal Infirmary I was told that all the patients were examined on their merits, though they often brought with them a recommendation from their usual private medical attendant. The workmen had committees to manage their funds at large works. But these were isolated committees and no one had yet conceived the idea of federating them. As subscribers of £5 and upwards these committees could send a representative who would have a voice in the management of the hospital but they had not so far availed themselves of this right. The medical staff before giving medicine were supposed to make inquiries but they rarely did so. Yet it was not believed that there existed much abuse. Undoubtedly there were many trivial cases and these wasted much time. The patients were generally very poor, mostly labourers whose wages ranged from 18*s.* to 24*s.* per week. The better class of workmen, notably those engaged in shipbuilding, were all subscribers to the hospital and therefore they conceived that they had a right to attend. Indeed, it seemed to be tacitly acknowledged that the payment of 1*d.* per week conferred this right. It had been proposed at a meeting of the board of management that no out-patient should be admitted who earned more than 25*s.* a week. Nothing, however, came out of the proposition and it is believed that by far the greater number of patients do not earn 25*s.* a week.

At the Victoria Infirmary I was informed that the porter takes the names of all applicants and the medical staff is supposed to make inquiries if they suspect the patients can afford to pay. As a matter of fact, not half a dozen such inquiries are made in the course of the year. At this hospital there are four workmen governors on the board and their technical knowledge of machinery is often very useful, but they do not help to prevent abuse.

Calling on several practitioners to ascertain their opinion on the question I was told of cases of abuse that had come to their knowledge. Thus at the Royal Infirmary a lady came in her carriage and wanted advice for her servant though it was not the right hour and her husband was known to be in receipt of an income of £2000 a year. Then a man presented himself who had received a blow in the ribs. To be examined he took off a gold watch and chain and put it on the table. The wife of a tradesman attempted to get some medicine free. She had put on an old bonnet and a tartan shawl. At another hospital a clergyman came with his daughter, who wanted her tonsils removed; another patient was a business manager and a third patient held a well-paid post. When the medical attendant remonstrated he was reprimanded. I was also told of a person in receipt of a large income who sent his children to the Eye Infirmary to be measured for spectacles. When some observations were made he retorted that he was an old subscriber to the hospital and therefore thought he had a right to ask for advice. One of the medical men on whom I called expressed the opinion that at least 10 per cent. of the cases treated at the hospitals might be qualified as cases of abuse. It often happened that ladies sent their children with a servant and there were many cases of minor surgery which should go to the local practitioner instead of to the hospital. Also a considerable number of well-to-do people came from the provinces thinking they would get better advice. On the other hand, some of the practitioners with whom I spoke, and more particularly the consulting physicians and surgeons, did not think there was much abuse. Some people could pay small fees, but this with the cost of medicine came too hard upon them. Those who seemed able to pay would be found on inquiry to have already spent more than they could afford in seeking the advice of private practitioners and were thus compelled to go to the hospital. There is certainly a great deal of indifference prevalent among members of the profession in Glasgow concerning this and, indeed, most other questions that affect medical practitioners in a collective sense. The idea of forming a union to uphold medical ethics and defend the economical interests of the profession has scarcely germinated. Little has been done in this direction, and some of the medical men in their present disunited condition engage in unrestrained competition. It is difficult to say how long this state of things will continue for as yet there seems to be no rift in the sky.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Lying-in Charity.

THE fifty-fifth annual meeting of this charity was held on March 4th under the presidency of the Lord Mayor (Councillor Beale). The report stated that the midwives of the charity had attended 700 cases during the year with the death of one mother. The cost per case had been 14*s.* 9*d.* The assistance of the honorary surgeons was called in in thirty-one cases. The diminution in the number of cases attended was attributed to the migration of the population from the centre of the city to outlying districts and to the improved state of trade, which had admitted of the cost of medical attendance being paid. The medical committee in their report strongly urged the establishment of a lying-in hospital for the training of midwives, monthly nurses, and medical students. They pointed out that in Birmingham something like thirty lives were lost every year from infective or preventable causes associated with confinement. The Lord Mayor, in moving the adoption of the report, said that it was contemplated to amalgamate the charity with the District Nursing Society and questioned the applica tuoifo

subscriptions for the purpose suggested by the medical committee. Some discussion followed and the scheme for the present was left in abeyance. The usual votes of thanks were passed.

Birmingham and Midland Counties Sanatorium.

The annual meeting of the Governors of this institution was held on Feb. 28th. Mr. J. B. Clarke presided. The committee in their thirty-second annual report stated that during the year there had been 1190 persons admitted to the Blackwell Institution. The subscriptions amounted to £1570 12*s.* as compared with £1429 18*s.* the previous year. With regard to the Sutton Coldfield Institution 293 patients were admitted and the subscriptions were £440 5*s.* This branch it was stated had not received so much support as it deserved, mainly from want of knowledge of the special advantages offered to the large class for whom it had been arranged. The Earl of Coventry was elected president for the ensuing year and thanks were given to the various officers.

Birmingham General Dispensary.

Mr. Alderman Johnson presided over the 104th annual meeting of this charity on Feb. 23rd. The total number of patients admitted during the year by tickets had been 37,203, showing an increase of 2205. The average cost of patients had been 3*s.* $11\frac{7}{10}$*d.* Teeth cases and accidents were treated without ticket and to these there had been 6955. Two additional medical officers had been appointed, thus increasing the staff to ten. A balance of £445 was carried forward.

Training Institution for Nurses.

At the annual meeting on Feb. 25th of the Birmingham and Midland Counties Training Institution for Nurses the Lord Mayor presided. The report stated that the number of nurses on the staff was 84, of whom 73 were trained and 11 were probationers. The statement of accounts was favourable. The committee regretted the death of the honorary surgeon, Mr. Oliver Pemberton, and reported that Mr. Gilbert Barling had been appointed in his place. They also recorded the loss of the honorary physician, Sir Willoughby Wade, who was leaving the town, and recommended the appointment of Dr. Rickards to fill the vacancy. The report was adopted and various votes of thanks were passed.

Cleansing the Courts.

The first week's work done in the direction of improving the sanitation of the poorer parts of the city showed that twenty-one of the largest and dirtiest courts had been cleansed under the direction of the Health Committee. Out of 192 notices served upon tenants nearly 100 had been complied with. The charge was being collected from the owners; this amounts to about 2*d.* per house. The lime-washing of closets and tub-sheds amounts to a few pence more. This desirable work is to be carried out throughout the city and will doubtless ensure a much more healthy and comfortable appearance apart from the moral effect upon the occupants, whose habits are opposed to the light of day and cleanliness.

March 16th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Manchester and Salford Sanitary Association.

THE annual meeting of the Manchester and Salford Sanitary Association was held on March 5th, the Lord Mayor (Alderman Gibson) occupying the chair. Dr. Leech submitted the report of the committee reviewing the proceedings of the association for the last twelve months. It drew attention to the non-success of efforts to induce the Baths Committee to provide cottage baths in densely populated districts. It seems surprising that a committee so enlightened as to establish large and well-equipped baths in various parts of Manchester should decline to enable the very poor, especially the women and young children, to wash and be clean at the small cost entailed by the provision of cottage baths. But there seems to be a common misapprehension, shared by the Lord Mayor, that cottage baths mean baths in all cottage houses. What is urged by the association, and especially by the Ladies' Health Society, is that a cottage or perhaps two adjoining cottages should be converted into inexpensive public baths fitted with simple appliances where poor women could give themselves and their children a good wash. They would not be used by men, who can much more easily go to the larger public baths than can the women. Many of these districts are a considerable distance from the palatial baths, which look so grand as to be deterrent to poor women who would not hesitate to take their children to a cottage in a neighbouring street like that in which they have their lodging. But city councillors are sometimes apt to think that the Abanas and Pharpars with which they decorate the city are better for all classes and cases than any cottage baths can possibly be. Reference was also made to the unsuccessful attempt made to dissuade the Gas Committee—of which Alderman Gibson was chairman—from mixing the dangerous water gas with coal gas for illumination and the committee still protests against this proceeding as strongly as possible, stating that in Philadelphia, where it is largely used, 34 deaths occurred last year from poisoning by carbon monoxide derived from water gas. Of these 18 were suicidal, 14 were accidental, and 2 were homicidal. Lectures to satisfactory audiences of working-class people are still continued and much is being done by the association and its allies, the Ladies' Health Society and the Smoke Abatement League, both in leavening the lower and educating the upper strata of society to the knowledge and appreciation of sanitary laws. In moving the adoption of the report the Lord Mayor warned the association against presuming "to instruct and order the corporation," because it would be "taking to itself a position that ought to be held by the elected representatives of the people," meaning, apparently, that the elected of the people must educate themselves. He adverted also to the use of water and oil gas, saying that "the corporation had explained that it was no more dangerous than ordinary gas," and that though gas containing water and oil gas had been used in Manchester "nobody seemed to know anything about it." The chief danger arises, of course, from the odourless carbon monoxide, which kills stealthily and insidiously, but if the gas-makers will only be good enough to mix it with a strong-smelling coal-gas the dangers of water-gas may be somewhat lessened.

Midwives and Death Certificates.

An inquest was held on March 9th by the city coroner on the body of an infant who was born on the previous Sunday morning and died the same afternoon. The midwife who had attended the mother, on receiving her fee, at once gave the parents a certificate to take to the registrar. He, however, refused to accept it and the matter was reported to the coroner. At the inquest the midwife said the birth was premature and so she gave the certificate. "She had previously given certificates which had been accepted by different registrars." The coroner is reported to have said "God help us all" if midwives were allowed to do this kind of thing. "There was a good deal said about the registration of midwives and of giving them more powers, but instead of that they ought to take away what power they already possessed." He said also that they were not intended "to take the post of doctor," but were only nurses, and that "if they desired to act beyond the duties of the nurse they should be compelled to go through a proper medical training and qualify as doctors." In this case the midwife was not present at the time of death and did not know the cause of death, but still gave a certificate. "It might have been murdered," as the coroner said, "for all she knew." The city coroner has had a large experience as to infant mortality and in connexion therewith sees much of midwives, so that the above expression of opinion should carry some weight. It seems unlikely, however, that any expression of opinion will influence those who are bent on the creation of an inferior and necessarily imperfectly educated order of practitioners who will compete not in midwifery alone, but in general practice also, with the legally qualified general practitioner. With the knowledge of what is done even now it is futile to expect that they will pay much regard to any strict boundary line of duty.

Health on the Ship Canal.

From the report of the medical officer of health of the

Port of Manchester (Dr. J. H. Crocker) it appears that from April to December last year he inspected 790 vessels. Of these 431 steamers and 207 sailing ships were British, while 108 steamers and 44 sailing ships were foreign. Defects or insanitary conditions were found on 86 vessels, but notwithstanding all the too true stories, so often repeated, of the prodigious power of its "stinks" the amount of sickness on the canal during the year was very slight.

Small-pox on the Canal.

At a meeting of the Manchester Port Sanitary Authority on March 3rd there was some discussion respecting a case of small-pox on board a ship in the canal. An agreement exists between the Manchester and Liverpool Port Sanitary Authorities by which the latter are to prevent such cases from coming up the canal and to take charge of them at Liverpool. But it seems that some misunderstanding arose and the clerk to the Manchester authority received an intimation that the case referred to was coming to Manchester. The man was, however, at once removed to the Ladywell Sanatorium, the whole of the crew were vaccinated and confined to the ship while in port, and the ship was disinfected. The misunderstanding between the authorities has been removed and in future the medical officer of Liverpool will remove all cases of small-pox from vessels bound for Manchester and as far as possible disinfect the ships. The medical officers of Widnes and Warrington are also to be approached with a view to similar arrangements being made with them.

March 15th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Annual Dinner of the Edinburgh Royal Medical Society.

THIS interesting event was held on March 11th. The guest of the evening was Mr. Mitchell Banks, F.R.C.S. Eng., of Liverpool, who is an Edinburgh graduate and had been during his student days a member of the society. It is the custom of the society thus to entertain one of its former members who has risen to eminence outside Edinburgh. In replying to the toast of his health Mr. Banks referred to the medical curriculum and said there were too many subjects taught and too much learning expected from the modern student of medicine. He thought that by the modern university system they were in danger of spoiling the aptitude of the student for teaching himself. It was a hard thing now to get a student to sit down at a bedside and worry out a difficult clinical case as they used to do in the old days. Sir William Gairdner, in replying for the Scottish Universities, said that he was not quite satisfied that the labours of the Commission had in all respects been for the good of Scotland. With regard to the fall in the number of students he had anticipated that and did not think much of it. He was not quite clear about the arrangement for putting professors upon fixed salaries. He had, however, no fear for the universities in the future so long as they could keep up the standard, and as long as the professors could say that their chairs were their main business so long would the Scottish Universities hold their own.

School of Medicine of the Royal Colleges of Edinburgh.

At a meeting of the Governing Board of the School of Medicine of the Royal Colleges of Edinburgh, Dr. G. A. Gibson presiding, the secretary, Mr. R. N. Ramsay, reported that the number of students attending the school during the current winter session was 1184, an increase of 285 as compared with the corresponding session of the previous year. Mr. Cotterill, Mr. Cathcart, Dr. Gulland, Dr. Fleming, and Dr. Aitchison Robertson have been elected as lecturers.

University of Glasgow.

The list of gentlemen on whom the Senatus proposes to confer the honorary degree of LL.D. at the April graduation includes the names of Alexander Duncan, B.A., secretary and librarian to the Faculty of Physicians and Surgeons, Glasgow, and John Millar Thomson, F.R.S., Professor of Chemistry in King's College, London. The profession in Glasgow will heartily endorse the academic recognition of Mr. Duncan's long and valuable services. Mr. Wm. Houldsworth, of Rozelle, Ayr, has intimated his intention to present to the University the sum of £5600 for the purpose of endowing a research scholarship in connexion with the Faculty of Science. The Court has decided to allow women students to compete upon the same terms as men for all open bursaries in arts, medicine, and science that were established prior to Aug. 30th, 1864.

Glasgow Infirmaries.

The directors of the Western Infirmary have announced their intention to proceed with the erection of a new building for the accommodation of the out-patient department. The building will be situated in the infirmary grounds and will include two wards for the reception of patients suffering from diseases of the skin. The estimated cost of the new dispensary is £25,000. Towards this the directors have received a grant of £5000 from the Bellahouston trustees and subscriptions amounting to a further sum of £10,000, leaving an additional £10,000 yet to be raised. The three new operating theatres at the infirmary are now in full working order and, though the critics are not perfectly happy, the great value of the new theatres is universally recognised. The plans for the reconstruction of the Royal Infirmary have been carefully considered by the medical and surgical staff and it is understood that the very extensive modifications proposed by the staff are likely to be adopted by the committee. Arrangements are already in progress to provide temporary accommodation for patients during the building operations. At a meeting recently held in Glasgow it was decided, on the motion of Mr. Robert Bird, seconded by Dr. Marion Gilchrist, to raise a sum of money for the endowment of a children's cot in memory of the author of "Alice in Wonderland."

Lectures by Medical Men.

On the evening of Sunday, March 13th, Professor Sir Wm. Gairdner, K.C.B., delivered a "lay sermon" in Trinity Congregational Church, Glasgow, his subject being "Tolstoi and the Sermon on the Mount." The concluding lecture of the series of lectures on art subjects instituted by the Glasgow Corporation was delivered on March 12th by Dr. Thomas Bryce, Lecturer on Anatomy in Queen Margaret College; the subject of the lecture, which was freely illustrated by limelight views, being "The Anatomy of Expression." A course of special lectures to ladies on the Relation of Alcohol to Health and Disease is announced; the lecturers will be Professor McKendrick, F.R.S., Dr. W. L. Reid, and Dr. Robert Brown.

March 15th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Dublin Sanitary Association.

THE annual meeting of the Dublin Sanitary Association was held in Leinster House on March 8th, Dr. J. W. Moore, the President, occupying the chair. The annual report which was read dealt chiefly with the various attempts that had been made during the year to provide suitable hospital accommodation for convalescent patients. Sir George Duffey, President of the Royal College of Physicians of Ireland, in moving the adoption of the report said that when last year he had proposed a similar resolution the health of Dublin was in a far more unsatisfactory condition than it is at present. According to the Registrar-General's recent returns the death-rate in the Dublin registration district during the first eight weeks of the current year was 1·9 per 1000 under the mean rate in the corresponding period of the previous ten years. There was a decline also in the epidemic of scarlet fever, which had been so prevalent, though there does not seem as yet to be any steady diminution in the number of cases of typhoid fever. The establishment of the home for convalescents in connexion with Cork-street Fever Hospital had proved most useful. The report, however, showed that the existing hospital accommodation for the treatment of infectious diseases was still altogether inadequate for the number of fever cases among the population. Sir Christopher Nixon, in moving the election of the council for the ensuing year, made some interesting observations in reference to the vexed question of

hospital accommodation for convalescents and mentioned a proposal made by the outgoing President of the association so long ago as 1879, that a convalescent hospital should be provided, consisting of four different portions, for patients recovering from small-pox, scarlet fever, measles, and typhus fever respectively. He (Sir C. Nixon) thought that such a plan might be adopted at the present day with a modification which would exclude small-pox patients from all connexion with other convalescents. The speaker alluded also to the total want of means for conducting bacteriological investigations in Dublin. In Liverpool, Manchester, Aberdeen, and in Belfast there were, he said, special bacteriological departments, organised and in the charge of experts, where such important procedures as, for example, the examination of milk for the germs of tuberculous disease could be properly carried out, yet neither the Dublin Corporation nor the Local Government Board had made any move in the matter.

The Local Government Bill.

If the provisions of the Local Government Bill as published remain unaltered the measure will seriously affect many of the lunatic asylums of Ireland. As regards the largest—the Richmond District Asylum—the present Board of Control will be abolished and the general management of the institution will be vested in a committee appointed by the county councils of the respective counties which form the contributing area of the district. Moreover, the Richmond district had secured advantageous terms in reference to loans by a special Act of Parliament passed in 1877 to which no allusion is made in the new Bill. The county councils will in future—and the matter may be very important—appoint not only the assistant medical officers of the asylums throughout Ireland but also the medical superintendents who have hitherto been appointed by the Lord-Lieutenant.

The Richmond District Lunatic Asylum.

At a meeting of the Governors of the Richmond District Asylum held on March 10th the medical superintendent, Mr. Conolly Norman, reported the occurrence of three fresh cases of beri-beri during the last fortnight and remarked that although but few of the patients suffering from that disease were now in any apparent danger a large number still remained in a most unsatisfactory condition, showing but little tendency towards recovery.

The Belfast Workhouse.

The coroner for Belfast has drawn the attention of the Local Government Board to an inquest held by him on March 2nd in reference to the death of an inmate of the Belfast Workhouse. It seems that the ward in which the deceased man died contained about 100 infirm patients and at night no ward-masters are present, the inmates being left in charge of pauper attendants, who retire to bed at the same time as the other inmates. No medical attention is paid to the inmates of the infirm ward while therein unless the inmates themselves, the ward-masters, or pauper attendants call the attention of the medical officers to the condition of the inmates. The man who died had a bad cough for eight months, and although a week prior to his death he complained to a pauper attendant of being unwell this was not reported either to the ward-master or to the medical staff. At the post-mortem examination congestion and inflammation of the lungs were detected, showing that the deceased required medical attention. It is evident that the man should have been in hospital, but he did not receive medical treatment and his serious condition was not observed by either the pauper attendant or the ward-master, and he was found dead in his bed on Feb. 28th. The jury acquitted the medical staff of blame because unless their attention was specially called it was not their business to medically supervise the inmates of the infirm ward, and further, it was stated that each resident medical officer had almost 400 patients daily under his care, so that in the opinion of the jury it was physically impossible that he could attend to such a number even if it was his duty to do so. While the jury acquitted the medical staff of blame they strongly condemned the system which permitted the deceased to die without any supervision or medical help. It is at the request of the jury that the coroner writes to the Local Government Board urging a reform of a system which they strongly condemned. The Board has promised that the subject shall receive their attention.

The Royal Victoria Hospital, Belfast.

The Belfast Corporation (Hospitals) Bill came before the Committee of the House of Lords on March 8th. The object of the Bill is to enable the Commissioners for general control and correspondence and for superintending and directing the erection, establishment, and regulation of asylums for the lunatic poor of Ireland to transfer certain lands in the city of Belfast for hospital purposes to the Corporation of Belfast and to the trustees of the Royal Victoria Hospital of Belfast. The Bill not being opposed has passed through Committee, but the report of the House will be kept back pending the introduction of amendments in accordance with the Committee's decision that the charter (which is not completed) should be obtained defining the purposes of the hospital.

Londonderry Lunatic Asylum.

A resolution urging the Government to take over the entire expense of the Irish asylums so that for the future they should be wholly maintained at the cost of the State as an Imperial charge was passed unanimously by the Governors of the Londonderry Lunatic Asylum on March 1st.

March 14th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Monoxide of Carbon Produced in the Blood by Chloroform

AT the meeting of the Academy of Sciences held on March 7th M. Nicloux reported that he had found a new method of estimation for the presence of feeble traces of monoxide of carbon. He shakes up the air or the liquid under suspicion with iodic acid. Iodine is set free and can be estimated by the usual methods if it is in appreciable quantity or by a colorimetric method if the quantity is very small. This is a valuable method of investigation, for up to now to investigate traces of monoxide of carbon the method has been to make a sparrow breathe the suspected air and then after death its blood is examined with the spectroscope after the method of Claude Bernard. Thanks to the new method, MM. Degrez and Nicloux have been able to perform experiments upon the blood of those anæsthetised by chloroform, experiments which have been disputed by M. Saint Martin. These observers have found that monoxide of carbon exists in normal blood in very small proportion, but that the quantity of this gas is notably increased under chloroform anæsthesia. For example, in one case under the influence of chloroform the investigators found 7 c.c. of monoxide of carbon per litre of blood. The question whether anæsthesia and sleep are not produced by monoxide of carbon is interesting. With the object of settling this point MM. Degrez and Nicloux have studied the condition of the blood during the anæsthesia produced by ether. In no case did they find that the normal proportion of monoxide of carbon was increased. The increase of that gas under chloroform anæsthesia is therefore due to the breaking up of the chloroform.

Tuberculous Meningitis produced Artificially.

At the meeting of the Society of Biology held on March 5th Dr. Louis Martin gave a demonstration of how tuberculous meningitis could be produced in guinea-pigs and rabbits by injecting tubercle bacilli into the cerebro-spinal fluid. He took a slightly curved needle and put it into the cavity of the cranium, passing through the ligaments joining the occiput to the atlas, keeping the needle against the occiput, using this bone as a guide so as not to injure either the medulla or the cerebellum. This operation in the guinea-pig is one of extreme delicacy. When the injection is made it must be made very slowly so as not suddenly to increase the tension of the cerebro-spinal fluid. Guinea-pigs injected with tuberculous cultures in the cerebro-spinal fluid die on from the ninth to the fifteenth day. After the injection the animal suffers from fever, but it neither wastes nor is there any paralysis. Three or four days before death the coat stares, the guinea-pig rolls itself into a ball, and loses weight very rapidly; paralysis appears during the last day or two and specially affects the hind limbs; the animal is very ill and dies with its temperature

much raised. Dr. Martin has generally noticed flattening of the abdomen. In the rabbit the operation is very easy and these animals are much less sensitive to tubercle than are guinea-pigs. The progress of the malady is less rapid; wasting and paralysis do not appear before the third week or even later. They die after five weeks or even two months and on making a post-mortem examination tubercle is found surrounding the vessels and there is general gelatinous œdema spread over the peduncles of the brain exactly in a similar manner as in children. By the courtesy of M. Marfan Dr. Martin was enabled to use some cerebro spinal fluid from a child who had died from tuberculous meningitis. Half a cubic centimetre was injected into a guinea-pig in the manner above described, with the result that it died in eight days, and under the microscope the meninges were found to be swarming with tubercle bacilli. Dr. Martin cultivated the meninges and obtained a culture of the tubercle bacillus. A control guinea-pig inoculated under the skin with the same dose died in four weeks. Dr. Martin also obtained some cerebro spinal fluid from a tuberculous patient during life by means of a lumbar puncture and inoculated this fluid into the cerebro-spinal space of a guinea-pig. The animal died in eighteen days. A control guinea pig inoculated hypodermically only showed a small ulcerated patch at the point of injection. In two months after the injection the animal was still alive. With the view of finding out if this investigation would be a help in the diagnosis of tuberculous meningitis Dr. Martin drew off some cerebro-spinal fluid from rabbits infected with tuberculous meningitis and having injected it into guinea-pigs observed that they died after an interval of time in direct relation to the date at which the rabbit died. In a rabbit already showing signs of paralysis Dr. Martin drew off 2 c.c. of cerebro-spinal fluid and on the next day the rabbit, which had been lying motionless on its side, was able to stand up on its feet; the improvement was, however, of short duration, for the rabbit died six days after the operation.

Blackmailing a Medical Man.

A medical man at Lille was recently arrested at the instance of a girl, who to avenge herself on her lover had accused him of having conspired with the medical man to procure abortion on her. The medical man in question was sent to prison. The inquiry showed that the whole charge was false. The sworn declarations of the girl were obviously inconsistent. Among the surgical instruments shown to her by an expert she pointed out one as having been used to procure the abortion which it would be obviously impossible to use for this purpose. On the other hand she said that the medical man had operated upon her on Dec. 23rd and that the abortion took place on Jan. 12th. On the representations of the expert witness the magistrate released the medical man after twenty-four hours' imprisonment. The daily press has vigorously criticised the conduct of the magistrate in so promptly arresting a medical man on the mere complaint of one who, to say the least of it, was not to be trusted.

The Expert Witnesses in the Laporte Case.

At the time of the arrest of Dr. Laporte, who has just been honourably acquitted, the medical men of Paris were naturally very angry with Dr. Socquet, whose hurriedly drawn-up report was, as everybody said, the cause of the prompt imprisonment of Dr. Laporte. M. Varnier, Professor of Obstetrics at the Faculty of Medicine, published at this time an article which caused a great sensation in which he reprinted the report of M. Socquet and then his second report, which was drawn up in conjunction with Professor Maygrier. He compared them with each other word by word and attacked them with extreme violence. The trial before the Court of Appeal made it possible for the public to become acquainted with the exact text of these reports which were laid before the court. It was easy to see that the text of reports upon which M. Varnier had established his position was altogether inaccurate and on the contrary it became evident that the expert witnesses had been perfectly impartial. The Society of Legal Medicine in its recent meeting on March 14th had a long discussion in which the exact text of these reports was laid before the members, together with the specimens from the post-mortem examinations and photographs of the same. The Society of Legal Medicine passed a resolution unanimously declaring that the attitude of the experts was absolutely inexplicable.

March 15th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

The Centenary of the Voltaic Pile.

IF electricity entered on a new era with the experiments of Galvani, of Bologna (1737-1798), it is to Volta that it owes its development along purely physical lines. These are accepted facts in the history of science—facts which redound to the honour of Italy. Not so well known, however, was the other fact that besides "physiological electricity" the application of the electric force to therapeutics is also of Italian origin, till it was established by the great German physiologist who died eighteen months ago at Geneva, Professor Moritz Schiff. That indefatigable worker and independent thinker in two papers (which appeared in THE LANCET of July 22nd and July 29th, 1876, pp. 117 and 150) traced the inception and progress of "Physiological and Medical Physics" from Galvani and Volta down through Marianini to Nobili, whose findings, as rectified by Matteucci, became the starting-point of fresh discoveries by the latter investigator till in 1829 he succeeded in proving (the words are Professor Schiff's) "that if along a dead animal tissue there runs the current of a simple pile the putrefaction is notably arrested and its products modified." The use made of this pregnant observation by Matteucci himself and a host of successors belongs to recent medical history and explains the enthusiasm with which Galvani twenty-one years ago received the honours of a memorial statue in his native Bologna and with which Volta, at the hands of a committee of Lombard telegraphists, physicists, and medical men will shortly be commemorated at his birthplace on Lake Como "nell' occasione del centenario della pila." Already scientific Italy is on the alert to celebrate worthily the centenary of this noble and prolific discovery and besides the Minister of Public Instruction their Excellencies the Ministers of Public Works, Finance, and Posts and Telegraphs have given their adhesion to the project and their coöperation towards its success. The medical contingent is also notably "representative" and will, it is hoped, utilise the occasion to wrest from Ministers some better means of following up the "bahnbrechend" work of Matteucci and his disciples than has yet been vouchsafed it. A "Volta prize" open to the *alumni* of all Italian Universities or more effectively equipped laboratories for the study and teaching of "physiological electricity" would be undoubtedly useful and eminently in keeping with the best traditions of the great Lombard investigator and discoverer.

Expectoration in Public Vehicles.

The movement in New York [1] for the suppression of this practice, as dangerous as it is disgusting, has its counterpart in Italy, where in many of the public conveyances (steam tramcars and even railway carriages) may now be seen notices conspicuously posted inviting passengers to refrain "dallo sputare" (from spitting) for the twofold reason of "decenza e salute" (decency and health). Considering that Italians were prominent in recognising the facility with which tuberculosis may be contracted by the inhalation of the germs wafted from the desiccated sputum left by expectorating tuberculous patients on carpeted floors or even on flagged pavements it is surprising that they should have waited for American initiative in the prohibition of "spitting outside the pocket-handkerchief." But in this, as in so many other salutary innovations, we must find comfort in the adage, "Better late than never."

German Students in Italy.

The reciprocity of civilities between two nationalities that used to be at deadly war is one of the most gratifying spectacles of the closing century. Just about a year ago,[2] under the title of "Inter-Academic Courtesies," I drew attention to the visits paid by professorially conducted Italian students to the chief Teutonic seats of learning and now we are witnessing on the part of Italy a return of the hospitality so graciously and generously vouchsafed to her by Germany. At this moment the chief Italian

[1] THE LANCET, March 12th, 1898, p. 763.
[2] THE LANCET, April 17th, 1897, p. 1122.

medical schools—from Genoa to Bologna, from Rome to Naples—are playing the congenial *rôle* of hosts to the select Burschenschaft of the Fatherland and, be it also added, are playing it with the goodwill and the liberality characteristic of the scientific undergraduate. "De minimis non curat juventus academica"; and that of Italy seems honourably emulous of its German counterpart in acting the "profuse Amphitryon" regardless of expense. At the banquets at which the visitors from the German schools have been entertained, I may add, there has not been the faintest semblance of "vulgar excitement"—a result to be expected when the ties between guests and hosts are those of science in general and the healing art in particular.

March 13th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Function of the Ciliary Muscle.

AT a recent meeting of the Vienna Medical College a paper on the Function of the Ciliary Muscle was read by Dr. Fukala. This muscle possesses a radial portion (Müller's muscle) the fibres of which pass to the middle of the eyeball, and a meridional portion (Brücke's muscle) lying towards the sclerotic outside the former. It is well-developed anteriorly, but decreases posteriorly. Brücke knew only the anterior part of the meridional portion, extending backwards for a length of about 0·1 inch, and believed that by its contraction it drew the choroid forwards and caused a relaxation of the zonule of Zinn, whereas the radial portion has an effect on accommodation. Brücke's muscle begins at Schlemm's canal and after a short meridional course divides into fibres which pass equatorially and become interwoven. In the inner layer, close to the choroid, there are, according to Schultze, equatorial fibres crossing the meridional fibres; in this way muscle nodes arise which form a network round the greater part of the eyeball and oppose, according to Dr. Fukala, the excessive dilatation which might be brought about by the external muscles. An elongation of the axis of the eye due to these causes would change emmetropia into myopia and increase a myopia already existing. The radial and meridional portions undergo different developments according to circumstances. In emmetropia both layers are equally well developed, for the emmetropic eye has a good power of accommodation and resists the action of the external muscles. In hypermetropia the radial layer is the stronger of the two, the meridional one being degenerated, for the hypermetropic eye requires to exercise its power of accommodation and there is no necessity for opposing elongation of the axis. In myopia there is atrophy of the radial part and hypertrophy of the meridional part, for accommodation is in this case less required; but it now becomes important to prevent elongation of the axis of the eye. Dr. Fukala's theory that the muscular network regulates expansion in the eye is supported by the fact that in myopia changes such as staphyloma posticum are found to occur at the posterior pole of the eyeball, where the fibres of Brücke's muscle are deficient.

Medical Aid Associations.

Some food for reflection is provided by a recently published report giving particulars of the operations of medical aid associations for the working classes during 1896. The membership shows an increase of 18,180 and the income an increase of 35,067 gulden (about £2922), the advance on previous figures being 10·4 per cent. The salaries of the medical officers amounted to 126,437 gulden (about £10,537), the advance in this department being only 3·1 per cent. The report states that there is an intention to extend the scope of these associations so as to include not only workmen but their families. The position of the medical officers of these associations is not altogether an enviable one, for they must not prescribe expensive medicines and they must be continually on the alert to detect malingering as well as to prevent the patients turning their illnesses to pecuniary advantage. There are three chief medical officers who are well paid and have only to exercise supervision over their colleagues. These associations have a total of 202,237 members. Medical aid associations for employers of labour have also been introduced, notwithstanding a protest made by the Medical Chamber, and nineteen medical officers have been appointed. The Medical Chamber, in fact, has extremely little influence in questions of this kind.

Decrease of Blood-pressure by Mechanical Means.

Some experiments on the effect of centrifugal force on the human body have been made by Dr. Wenusch, whose attention was attracted to the subject by the fact that when the arm is swung in a circle the hand becomes red from a determination of blood to the veins and capillary vessels. Experimenting on persons with normal circulatory apparatus he found that there was a decrease in the pulse rate and the blood-pressure when they were kept for ten minutes on a horizontal platform making sixty revolutions per minute round a vertical axis. In a case where the pulse-rate was 92 per minute and the manometer showed that the blood-pressure was 145 millimetres before the commencement of the experiment, the effect of the rotation was to bring down the pulse rate to 62 per minute and the pressure to 125 millimetres. Diminution of the pulse rate and blood-pressure were also observed in two cases of cardiac insufficiency. Rotation has the effect of increasing the amount of blood in the peripheral portions of the body and decreasing the amount in the central portions; between these two extremes there is a zone in which the blood-supply is normal.

The Chair of Forensic Medicine at Vienna University.

The medical professors of Vienna University have proposed Dr. Alexander Kolisko as Professor of Forensic Medicine, in succession to the late Dr. Hofmann. Dr. Kolisko is one of the most eminent authorities on pathological anatomy in Austria and his lectures are always attended by a great many English and American medical men.

March 14th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Australian Association for the Advancement of Science.

THE Australian Association for the Advancement of Science has recently held its seventh meeting. Sydney was the town selected on this occasion and the work of reading and listening to papers, in which a week was spent, was diversified by excursions to various places of interest in the vicinity. The inaugural ceremony took place in the great hall of the University on Jan. 6th, when about 500 guests were entertained by the president of the association, Professor Liversedge. On Jan. 7th Professor Liversedge delivered the presidential address, in which he summed up the history of the association and gave a synopsis of the progress of chemistry. The following are a few of the very numerous papers, abstracts of which appear in the *Town and Country Journal*. Mr. R. H. Matthews, L.S., read a paper on Pictorial Art among Australian Aborigines and Australian Initiation Ceremonies. Among the important portions of these ceremonies might be mentioned the use of the bull-roarer, fire and smoke ordeals, the extraction of a tooth, the application of human blood, the eating of human ordure, and the employment of certain mystic white stones. The section of biology was opened by Professor C. J. Martin, M.B., D.Sc. Melb., with an address on the Relations of Morphology and Physiology. Mr. A. W. Howitt, F.G.S., delivered an address on the "Origin of the Aborigines of Tasmania and Australia." The Australian might, he thought, be said to represent hunting tribes of the neolithic age, and their original stock might be assumed to have been a low form of Caucasian melanochroi. The weight of evidence went to show that the Tasmanian aborigines were offshoots of that stock to which the name of oceanic negritos was applied. An address on "The Centre of Australia," delivered by Professor W. Baldwin Spencer, of Melbourne University and illustrated with about sixty lantern slides attracted a large audience. He said that to reach that part of the country it was necessary to travel 680 miles by railway from Adelaide to Oodnadatta and then on camelback for two or three hundred miles. The business was concluded on Thursday, Jan. 13th, on which day Sir James Hector, K.C.M.G., M.D. Edin., F.R.S., lectured on "Antarctica." He said that very little is known about the Antarctic continent, although it is an immense area in extent almost equal to Australia.

Lunacy and its Treatment in Victoria.

The Melbourne *Age* brings an indictment against the Lunacy Department in Victoria. It affirms that very few, if any, of the asylums have been kept up to a proper standard of efficiency. There is more insanity in Victoria in proportion to the population than in any other country in the world, the proportion being 3·5 per 1000. The percentage of cases in the Victorian asylums has for years past shown a steady decline (from 54 to 30 per cent.), while the death-rate has been increasing. In the adjacent colony of New South Wales the percentage of recoveries has increased and the death-rate remained steady. The difference in the two colonies is attributed to the policy of cheeseparing and retrenchment adopted in Victoria. The number of medical officers has been reduced. Vacancies in the staff have not been filled, overcrowding has been permitted, and the asylums are not equipped with modern appliances. At the Kew Asylum there are 1000 patients under the care of two medical officers. In the estimates for 1896–97 provision was made for a second medical officer at the Yarra Bend Asylum, but the position remained unfilled for nine months, the salary being so small that no one would take the position. The head of the Lunacy Department, Dr. M'Creery, has done all in his power, but is hampered by want of funds. He himself is greatly overworked. In addition to being Inspector of Asylums and head of the whole department he is superintendent of the Kew Asylum, the largest asylum in the colony. In his last annual report he admits that the Victorian asylums compare unfavourably with those of other countries and do not give patients the advantages it should be possible to secure for them. Private asylums are not permitted in Victoria and paying patients are received at the asylum. The accommodation provided for them is very poor and is a disgrace to the Government. The result is that the friends of well-to-do lunatics generally send them out of the colony for treatment. The whole subject was considered by a sub-committee appointed by the Victorian Branch of the British Medical Association, who recently formed a deputation to the Chief Secretary on the matter, and probably some alterations and improvements will be made.

Infectious Disease in Victoria.

The number of typhoid fever cases reported to the Board of Health of Victoria has increased all over the colony lately. For the fortnight ending Jan. 22nd, 1898, 254 cases were reported with 24 deaths. For the corresponding period 1897 the number was 188 cases and 5 deaths. Diphtheria also shows a slight increase. In connexion with the reporting of infectious cases medical practitioners are dissatisfied with the fee allowed for making a report—viz., 1*s*. It was originally 2*s*. 6*d*., but was reduced when the Government retrenched everything. The Medical Defence Association brought the matter before the Board of Health recently and probably the fee will be raised. The conveyance of patients with infectious disease to and from hospitals has recently been a cause of dispute between the Richmond City Council and the President of the Board of Health. The Richmond Council has promised an ambulance for the purpose and as under the Health Act it is an offence if persons suffering from infectious disease travel in tramcars or trains the council decided to prosecute in cases where patients were known to be travelling to and from the Children's Hospital while suffering from typhoid fever and diphtheria. Dr. Gresswell, the President of the Board of Health, when interviewed on the subject, characterised the action of the Richmond Council as harsh under the circumstances, seeing that there is no infectious diseases hospital yet established to which such cases can be sent and the people are too poor to pay for medical advice at their homes. To this the Richmond Council replied that in such cases the council provided medical attendance and that during 1896–97 1465 visits were paid to poor patients at their homes by a local medical man retained for the purpose by the council.

Feb. 1st.

THE *Councillor and Guardian* contains an appreciative little sketch of Mr. A. C. Farrington, M.R.C.S., M.R.C.P. Edin., who has done much to popularise parish council work in the Norfolk parish of Sheifanger, where he lives. As he has retired from practice he is able to devote much time to his favourite hobby—mechanical invention, his latest performance in this direction being the construction of a "secret voting machine."

Medical News.

UNIVERSITY OF CAMBRIDGE.—At the congregation on March 10th the graces suspending the Professorship of Surgery and establishing a temporary Readership in its place were passed. The General Board, with whom the appointment of the new Reader will rest, invite applications for the office to be sent to the Vice-Chancellor by May 2nd. At the same congregation the following were admitted to degrees in Medicine and Surgery:—

Doctor of Medicine.—F. C. Bottomley, B.A., M.B., B.C., Gonville and Caius.

Bachelor of Medicine and Bachelor of Surgery.—E. R. Delbruck, B.A., King's; H. W. B. Shewell, B.A., Trinity; J. R. Charles, B.A., Caius; A. J. Petyt, M.A., Christ's; A. V. Peatling, B.A., Magdalene; A. R. Paterson, B.A., Emmanuel, and W. J. Lindsay, B.A., Sidney.

Bachelor of Surgery.—C. R. Skryme, Christ's.

FOREIGN UNIVERSITY INTELLIGENCE.—*Amsterdam:* Dr. J. de Bruin has qualified as *privat-docent* of Pediatrics.—*Basle:* Dr. Roth, Professor of Pathological Anatomy, has resigned his chair.—*Bonn:* Dr. Max Eichler has qualified as *privat-docent* of Otology.—*Budapest:* Dr. Julius Dollinger has been appointed Professor of Surgery, with charge of the First Surgical Clinic; Dr. Arthur Sarbó has qualified as *privat-docent* of the Diagnosis and Examination of Nervous Diseases.—*Cadiz:* Dr. Antonio Gonzalez Pratz has been appointed Professor of Clinical Medicine.—*Jurieff (Dorpat):* Dr. Nikolai Savaleieff, of Moscow, has been appointed Extraordinary Professor of Special Pathology.—*Moscow:* Dr. Tikhomiroff has been appointed Professor of Pharmacology.—*Munich:* Dr. Josef Trumpp has qualified as *privat-docent* of Pediatrics.—*Naples:* Dr. P. Malerba has been appointed Professor of Physiological Chemistry.—*Padua:* Dr. Penzo, of Turin, has qualified as *privat-docent* of Surgical Pathology.—*Pisa:* Dr. E. Respighi, of Bologna, has qualified as *privat-docent* of Dermatology and Syphiligraphy.—*Vienna:* Dr. Julius Weiss has qualified as *privat-docent* of Internal Medicine.

THE PASSION PLAY AT SELZACH.—It is announced that performances of the Passion Play will again be given at Selzach, in Switzerland, during the summer of 1898. The dates fixed are June 19th, 26th, and 29th, July 3rd, 10th, 13th, 17th, 24th, and 31st, Aug. 7th, 14th, 15th, 21st, 28th, and 31st, and Sept. 4th and 11th. The first tableau commences at 11 A.M. All information as to tickets, hotels, &c., can be obtained by applying to the following address: Graber, Selzach, Switzerland, the envelope being further marked "Bureau of Information."

THE LATE MR. H. W. FREEMAN.—Mr. Alderman Freeman, F.R.C.S. Irel., J.P., of Bath, who died last November, has left personalty amounting to £75,524. The deceased, who was a native of Bideford, bequeathed £1000 to the Bideford Infirmary and £15,000 to the Royal United Hospital, Bath, subject to certain trusts, to maintain a convalescent home for the patients and sick members of the staff of this hospital. His bequest of £1000 to the Middlesex Hospital, London, was mentioned in THE LANCET of March 12th.

HUNTERIAN SOCIETY.—An ordinary meeting of this society was held at the London Institution on March 9th, Mr. A. H. Tubby, vice-president, being in the chair. The following pathological specimens were exhibited and discussed:—Mr. Tubby: Large Cystic Kidney removed by operation.—Mr. Targett: Malignant Disease of the Uterus.—Dr. W. Rawes: Subserous Fibroid of the Uterus, showing necrosis of the centre and calcification of the periphery.—Dr. A. T. Davies and Dr. J. H. Drysdale: Double Thoracic Aneurysm simulating malignant growth of the left lung. The heart was displaced entirely to the right of the median line.—Dr. Drysdale: Sacculated Aneurysm of the Aorta.—Dr. Hingston Fox: Strangulation of the Ileum beneath an adherent Meckel's diverticulum.—Mr. John Adams: Bullet Wound of the Chest. The auricles, aorta, superior vena cava and right lung were perforated.—Dr. F. J. Smith: Tuberculous Kidney, Bladder, and Testes, with Angular Curvature of the Spine.—Dr. Sequeira: Tuberculous Peritonitis in a boy, with extensive Adhesions of the Intestines.

FORFARSHIRE MEDICAL ASSOCIATION.—A meeting of this society was held in the University College, Dundee, on March 4th, Dr. G. O. C. Mackness, vice-president, being in the chair.—Dr. Stalker read notes of a case of Spinal Myelitis of Syphilitic Origin. The chief symptoms were girdle pains, paralysis of the lower limbs, hyperalgesia in parts, incontinence of urine, exaggeration of deep reflexes, with absence of rigidity. The case improved rapidly under treatment.—Dr. Buist read notes of a case of Cystocele on which he had operated. He made a vertical incision in the anterior vaginal wall, stitched the postero-inferior portion of the bladder wall in folds, and made the vertical incision into a transverse cicatrix. The result of the case was relief without recurrence six months after.—Dr. Halley read notes of a case of Acute General Erythema following a septic ulcer. The patient was a man, aged seventy years, who had suffered for several years from an ulcer of the leg. The ulcer having become septic and gangrenous he was admitted to the hospital. At the same time his whole body became covered with an erythematous rash. He had had no rigor or sore throat but his temperature was 101° F. It was considered advisable to amputate through the middle of the thigh,. The case gave no trouble, the rash disappeared, and desquamation commenced immediately on its disappearance. Dr. Halley discussed the possibility of the rash being due to an idiosyncrasy on the part of the patient to the carbolic lotion which was used as a dressing, but he considered that it was more probably due to septic absorption.—Mr. Greig read notes of cases he had attended in which eczema and erythema had followed the application of antiseptic dressings.—Pathological specimens were shown by Dr. G. F. Whyte and Dr. Kynoch.

NATIONAL REGISTRATION OF PLUMBERS.—The annual public meeting of the Bradford district council, in connexion with the National Registration of Plumbers, was held on March 9th at the Technical College, Bradford. Mr. Charles France, architect, presided, and was supported by Alderman Richard Hind, Master of the Worshipful Company of Plumbers; Dr. W. A. Evans, medical officer of health; Mr. James Watson, city waterworks engineer; Mr. J. H. Cox, city surveyor; and Mr. F. W. Richardson, city analyst. Dr. Evans, in seconding the adoption of the report, said the work of registration was certainly progressing. It was hardly necessary to point out the value which all sanitarians attached to the efficiency of plumbers' work. It was very often the scamping of plumbers' work or the employment of unqualified people which was the cause of the preventable diseases which were the scourge of communities. He hoped the Bill for the Registration of Plumbers would have better fortune than it had previously had. Alderman Hind said he was very glad to see the names of two medical officers on the list of public representatives of the council, for much of the sanitary progress of any community depended upon the interest of these gentlemen. He acquiesced in Dr. Evans's expression of the hope that the Plumbers Registration Bill would meet with a better fate this year than it had hitherto experienced. It was admitted on all hands that much of the preventable disease of the country was caused by bad plumbing work inside the house, and it was therefore regarded as most important that some provision should be made whereby any person who wanted to employ a plumber should be able to know whether or not the person whom he had in view had had the necessary and proper training. Speaking of the Worshipful Company of Plumbers he said that though for a time it had passed out of the hands of the plumbers it was now interesting itself in the trade in a very practical way. Mr. James Watson proposed a resolution—"That this meeting reaffirms the desirability of the speedy passing into law of the Plumbers Registration Bill." He said he had had something to do with the initial stages of the registration of plumbers in Scotland, for he was convinced that the plumbers very largely had control of the public weal especially in congested communities. He contended that it was the bounden duty of Parliament, whose first object should be to see to the public health, to give the qualified plumber a status and standing by registration in order to encourage him to do his best for the community in which he lived.—Mr. F. W. Richardson, city analyst, then delivered a lecture on "Microbes and Sanitation," in which he described and illustrated the nature of microbes, the poisons formed by disease germs, the causes of the various preventable diseases, the conditions favourable to diseases and epidemics, the influence of filth, bad water supplies, and defective plumbing, and the importance of sanitation generally in regard to disease. Votes of thanks to the chairman, to the lecturer, and to Alderman Hind closed the meeting.

DEATH OF A CENTENARIAN.—The Rev. Edward Allen, the oldest clergyman in the Church of England, died at Tiverton on March 4th in his 101st year.

DARTMOUTH COTTAGE HOSPITAL.—The eleventh annual meeting of this institution was held recently. The report showed that 68 patients had been admitted during 1897 and that the total number of admissions since the establishment of the hospital was 452. The expenses of maintenance for the past year amounted to £304 and a balance of £62 remained in hand.

EXHIBITION AT ROCHEFORT-SUR-MER.—Rapid progress is being made with the buildings of the International and Colonial Exhibition which is to be held at Rochefort-sur-Mer from June to October. The magnitude of the work will be understood from the fact that the central dome of the buildings is to be at least eighty feet in height. The exhibits will include commercial, industrial, and marine products, pictures, &c.

VICTORIA INFIRMARY OF GLASGOW.—The report of the Victoria Infirmary of Glasgow for the year ended Oct. 31st, 1897, shows that 123 patients were under treatment on Oct. 31st, 1896, and that 1590 were admitted during the year; there were 134 deaths, 49 of which occurred within forty-eight hours after admission, and 135 cases remained under treatment on Oct. 31st, 1897. The operations included 14 cases of ovarian tumour, 52 other abdominal sections, 12 excisions of the hip, 12 excisions of the knee, and 16 cases of trephining. The average daily number of patients was 188, the average residence was thirty-one days, and the average cost per head £4 9*s.*

THE FACTORY GIRLS' COUNTRY HOLIDAY FUND.—The society was started ten years ago, and 39 girls and women were sent for a holiday during the year 1888. Since then the number has steadily increased, and during the past year (1897) 1250 girls and women were sent to the country or seaside at a cost of £1230 3*s.* 6*d.*, of which sum the amount of £246 17*s.* 7*d.* was paid by themselves. It is somewhat surprising that the committee find it necessary to include the following paragraph in their report: "All the railway companies, in spite of many appeals, still refuse to grant reductions of fares."

NATIONAL DENTAL HOSPITAL.—Mrs. Victor Horsley distributed the prizes to successful students of the last session at the Queen's Hall on the 14th inst. In acknowledging a vote of thanks Mr. Victor Horsley alluded to the brighter prospect which was now before the student in his professional career and to the necessity for broader education. Those who took advantage of the facilities now supplied would be the first to reap the reward. There were, however, still a few, even among his colleagues on the General Medical Council, who did not appreciate the necessity of surgical knowledge for a dentist, but this retrograde feeling was confined to a very limited number.

LITERARY INTELLIGENCE.—Messrs. Macmillan and Co. will publish early in April the fifth volume of the System of Medicine edited by Professor Clifford Allbutt. It will deal with the Diseases of the Respiratory Organs, Diseases of the Pleura, and partly with Diseases of the Circulatory System. The sixth volume, which is well advanced, will complete the section dealing with Diseases of the Circulatory System, and will also deal with Diseases of the Muscles and of the Nervous System, including Mental Diseases. A series of short articles on the Diseases of the Skin will complete this important work. It seems practically certain that a seventh volume will be required, but this will include a complete Index. It is expected that the remaining volumes will be issued before the end of the year.—We understand from Messrs. Sampson Low, Marston, and Co. that the whole of the fourth and a large part of the fifth new and popular editions of Dr. Theodor Billroth's "The Care of the Sick at Home and in the Hospital" were subscribed for prior to publication, a result upon which we congratulate the translator.

COUNTY LABORATORY FOR GLAMORGANSHIRE.—At the meeting of the Sanitary Committee of the Glamorganshire County Council, held on March 4th, it was decided to establish a bacteriological and chemical laboratory in Cardiff and to advertise for a bacteriologist at a salary of £250 per annum. It is hoped that the laboratory will be in working order by June next. The initial expense is set down at about £500 and the annual cost of maintenance at £390. This valuable institution owes its formation to the energy of Mr. H. Lewis (the chairman of the County Sanitary Committee), Mr. Naunton Davies, F.R.C.S. Edin., Dr. T. H. Morris, and Dr. W. Williams (the medical officer of health of the county).

CITY OF LONDON LYING-IN HOSPITAL.—The report of this institution for the year ending 1897 states that during the year 521 women have been delivered in the hospital, being 28 more than in 1896, and the highest number since 1863. 524 children were born—viz., 279 boys and 245 girls; three women had twins; 29 children were stillborn, 22 of these being either decomposed or premature; 15 children were apparently stillborn but were restored, and three women and 15 children have died. None of the maternal deaths were from septic causes. Of 1668 women delivered by the midwives at their own homes 1686 children were born; of these 872 were boys and 814 girls; 18 women had twins; 69 children were stillborn and 29 apparently so though subsequently they were restored; 6 women and 32 children have died. The financial condition of the hospital is satisfactory.

EPSOM COLLEGE.—The College has recently sustained a great loss by the death of Mr. P. H. Maddock, one of the assistant masters. Educated at Marlborough and Lincoln College, Oxford, for several years he had been a most earnest and successful worker with the head-master and the staff in raising the tone and the scholarship of the school to its present position. He was a good form master, devoted to his boys, and they were very attached to him. His colleagues of common room were his friends. By his will he has bequeathed £500 to the college, which will doubtless be used to perpetuate his memory. His pictures and his library, consisting of several hundreds of valuable works, he has given to the school. Such interest and affection for an institution in which he lived and worked will show how close is the tie between the teachers and the taught and will go far to explain the growing reputation of the college. His friend and sole executor has generously given the valuable entomological collection made by Mr. Maddock to the college museum.

THE DENTAL HOSPITAL OF LONDON.—The fortieth annual meeting of governors of this institution was held at the hospital, in Leicester-square, on March 17th. The committee, in their report, which was unanimously adopted, regretted the necessity of calling attention to a slight falling-off in the amount received from annual subscriptions, a diminution which they hoped might be due solely to the very unusual demands made on the public during the Diamond Jubilee year and they trusted that their next report would show an improvement in this direction. The total amount received for the general fund was £2677 13*s.* 7*d.*, including £109 7*s.* 6*d.* from the Prince of Wales's Hospital Fund, £109 7*s.* 6*d.* from the Hospital Sunday Fund, and £141 18*s.* from the Hospital Saturday Fund. The contributions to the building fund amounted during the year to £2928 14*s.* 11*d.*, including £577 5*s.* received from the trustees and members of the Managing Committee, in addition to their previous donations. The erection of the new hospital buildings has not progressed so far as the committee wish, owing partly to difficulties with various public authorities (in meeting these difficulties they have to acknowledge much assistance from the Charity Commissioners) and partly to the advance in price of building material and other unavoidable causes. The medical report showed that the number of operations performed in the hospital had increased from 19 255 in 1874 (when the present buildings were taken over) to 57,654 in 1896 and to 62 512 in 1897, and the committee thought that these figures alone should be sufficient to recommend the claims of the institution for increased help and support. Donations or subscriptions will be gladly received by the bankers, Messrs. Barclay and Co., Limited, 1, Pall-mall East, S.W.; the treasurer, Mr. Joseph Walker, M.D. St. And.; or the secretary, Mr. J. F. Pink, at the hospital, Leicester-square, W.C., the latter of whom will be very pleased to supply any information concerning the hospital.

THE LATE MR. GEORGE MÜLLER.—Mr. George Müller, the founder of the well-known Orphan Homes at Bristol, where 2000 children are now supported by voluntary contributions, died suddenly on March 10th. Mr. Müller who was ninety-two years of age, succumbed to an attack of syncope.

HOSPITAL FOOTBALL.—The final tie for the Rugby Challenge Cup was played at Richmond on Tuesday, March 15th, when St. Thomas's Hospital, the holders, were beaten by Guy's Hospital by one goal and three ties to a dropped goal. This is the first time for ten years that St. Thomas's have been beaten in this competition.

EAST-END MOTHERS' HOME.—The annual meeting of this institution will be held on March 22nd, at 9, Grosvenor-gardens, S.W., at 3.30 P.M. The report of the Committee of Management for 1897 states that the number of in-patients admitted was 237 and of the out-patients who attended 241. Financially the year compares favourably with the previous twelve months. The general health of the patients in the Home has been very satisfactory. It is pointed out in the medical report that "privacy in many model dwellings is often very difficult to procure and the Home meets this to a certain degree by providing accommodation for confinements. It is hoped that the proposal to add to the existing accommodation may be carried into effect."

PRESENTATIONS TO MEDICAL MEN.—On the 3rd inst. at a social meeting of the Glasgow and South-Western Railway Ambulance Class Mr. R. C. Robertson, M.B., C.M. Glasg., the class lecturer, was the recipient of a pair of opera-glasses and a gold pendant, and Mr. J. Laurie, M.D. Glasg., who gave several lectures during Dr. Robertson's illness, was presented with a pair of silver candlesticks.—On the 3rd inst., at a social meeting of the station corps of the St. John Ambulance Association, Perth, Mr. W. Robertson, M.D. Glasg., the instructor of the class, was presented with a study chair.—Mr. Geo. M. Johnstone, M.D., F.R.C.P. Edin., of Leith, was entertained at dinner on the 3rd inst., at the Peacock Hotel, Newhaven, Edinburgh, by the parish council officials, on the occasion of his approaching marriage, and presented with a complete set of silver fruit knives and forks, and also a case containing accessories in the shape of silver nut-crackers and grape scissors. At the same time Dr. Johnstone was the recipient from friends and patients resident in Leith of an address and a silver salver.—On the 5th inst. the railway employés on the Great Central Railway at Stairfoot, Barnsley, assembled in one of the waiting-rooms for the purpose of receiving efficiency certificates of the St. John Ambulance Association, presented Mr. C. B. B. Savory, M.D. Edin., of Stairfoot, the lecturer to the branch, with a silk umbrella.—Dr. John T. Arlidge, J.P., of Newcastle-under-Lyme, has been presented by the medical faculty and the Committee of the North Staffordshire Infirmary with a full-sized portrait in oils, which is now hung on the walls of the board-room of the institution, as a testimonial in recognition of the personal services he had rendered to the infirmary and to medical science. It may be stated that the subscribers were exclusively limited to past and present members of the general and medical committee of the infirmary. Another fund was started at the instigation of Dr. Moore, of Dublin, with which a handsome illuminated address and a massive silver salver were provided and have also been presented to Dr. Arlidge, the salver bearing the following inscription: "Presented to J. T. Arlidge by several of his friends in grateful remembrance of his unvarying kindness and professional skill, and likewise in recognition of the value of his published works and long continued exertions to advance the interest of the working classes."—On March 8th, at the annual meeting of the Tunbridge Wells Eye and Ear Hospital, Mr. Geo. Abbott, L.R.C.P. Lond., M.R.C.S., of Tunbridge Wells, the founder of, and an active worker during the lengthened period of eighteen years in, the institution, was the recipient on the occasion of his official retirement of a beautifully illuminated address, suitably recognising his valuable services to that hospital and to the town of Tunbridge Wells. A sum of £85

has been voluntarily subscribed which, in accordance with his suggestion, has been applied to form a nucleus of a fund for aiding convalescent patients from the hospital.—At a meeting of the subscribers of the Hambrook Village Hospital, held on Feb. 28th under the presidency of Captain Belfield, Dr. E. Crossman was presented with a silver salver bearing the following inscription: "Presented to Edward Crossman, Esquire, M.D., by subscribers of the Village Hospital, Hambrook, in recognition of his valuable and devoted services to that institution as medical director during thirty years—1867-1898."—At a meeting of the parishioners of Bere Ferrers, Devonshire, held on March 5th, the Rector (the Rev. F. W. Wintle) presented Mr. A. Keppel Reede, L.R.C.P. and S. Edin., with an illuminated address, a silver teapot, sugar basin, tongs, and cream dish, as a mark of their respect and esteem upon the occasion of his leaving the neighbourhood.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Amendment of the Lunacy Laws.

THE Government have in preparation and will very shortly introduce in the House of Lords a Bill for the amendment of the Lunacy Laws.

London University Commission Bill.

During the Committee Stage of this Bill in the House of Lords the Duke of Devonshire announced the names of the Commissioners as follows:—Lord Davey, chairman, the Bishop of London, Sir William Roberts, Sir Owen Roberts, Professor Jebb, M.P., Professor Michael Foster, and Mr. E. H. Busk, Chairman of Convocation. These names are the same as were proposed in the Bill of last year, with the exception that Professor Michael Foster takes the place of Lord Lister.

Petroleum Lamp Accidents.

The House of Commons has re-appointed its Select Committee on the keeping, selling, using, and conveying of petroleum and other inflammable liquids and the precautions to be adopted for the prevention of accidents with petroleum lamps. It is not expected that the Committee will occupy much more time in the collection of evidence.

The Vaccination Bill.

The names put on the back of the Vaccination Bill are those of Mr. Chaplin, Mr. A. J. Balfour, Sir Matthew White Ridley, and the Attorney-General. The second reading of the Bill is down for Monday, but it is not likely to be taken then.

HOUSE OF COMMONS.

THURSDAY, MARCH 10TH.

Mortality on the Gold Coast.

Mr. Chamberlain, replying to a question addressed to him by Mr. Loder, said that the number of British civil officials in Sierra Leone and the Gold Coast was about 30 and 125 respectively, and the number of deaths among them was 5 and 14 in 1896 and 2 and 5 in 1897. A comparison based upon a longer period appeared, however, to show that the Gold Coast was more unhealthy than Sierra Leone.

Accidents in Aerated Water Factories.

Mr. Tennant asked the Home Secretary with reference to the special rules issued to aerated water factories exempting labellers from wearing face-guards, masks, or veils of wire gauze or goggles while labelling bottles standing in cases, whether that exemption was in accordance with the recommendations of the departmental committee appointed to inquire into the subject, and whether his attention had been called to the case of the boy Chafer, employed by Mr. G. H. Gibson, at Brigg, who in November last lost an eye from a bottle bursting whilst labelling bottles standing in cases, and whether he would revoke the exemption which prevented the boy from being adequately protected.—Sir M. White Ridley replied that the Home Office Committee, with which the hon. Member was connected, made a general recommendation that labellers in these factories should wear face-guards, but did not discuss the question of the labelling of bottles in cases. The accident was reported on at the time and the facts were as stated, but the hon. Member must surely be aware that the Home Secretary had not the power at pleasure to make or alter special rules. They must be settled either by arrangement with the employers or by arbitration and in the present case he could not regard the occurrence of a single accident, much as he regretted it, as a sufficient reason for reopening a question which had just been settled after long and difficult negotiations.

Death Certification.

Sir Walter Foster asked the President of the Local Government Board whether he was aware that a case of supposed sham burial was brought before the Chancellor of the Diocese of London at a Consistory Court on Wednesday last; and whether, seeing that the Select Committee on death certification published evidence in their Report in 1893 showing that the law was very inadequate to prevent the occurrence of such cases, he would bring in a Bill to amend the law as regards death certification in accordance with the recommendations of the Select Committee. Mr. Chaplin replied: I am aware that the Chancellor of the Diocese of London has decreed a faculty authorising the opening of a vault with a view to ascertaining whether a coffin contains a certain body. I cannot hold out any expectation that the Government will propose in the present session any legislation on the subject of death certification.

Deaths in the Regent's Canal.

Sir M. White Ridley, replying to Sir M. Bhownaggree, said that between August, 1896, and August, 1897, inquests were held on thirty-one bodies found in the Regent's Canal. In eight cases a verdict of accidental death was returned and probably in some of the other cases also death was accidental. A special report had been made to him on the subject setting out the safeguards which seemed desirable, but he had no power, he feared, to enforce any adoption of them by the company.

MONDAY, MARCH 14TH.

The Lunacy Question.

Mr. William Corbet asked the Home Secretary if his attention had been drawn to a special report of the Commissioners in Lunacy to the Lord Chancellor, presented last Session, in which they stated that whereas in 1859 the number of lunatics, idiots, and persons of unsound mind in England and Wales was 36,762 the number had increased in 1896 to 96,446, showing a ratio to every 10,000 of the population of 31·18 as compared with 18·67 at the previous period, and also to the last (the fifty-first) report issued by the Lunacy Commissioners, in which they regretted the very large increase of 2919 in the number of lunatics in England and Wales on Jan. 1st, 1897; and whether he would consider what could be done, by promoting an International Commission or by some other means, to arrest the increase of insanity.—Sir Matthew White Ridley replied that his attention had been called to these reports. It was, in fact, at his request that the Lord Chancellor called for the special report from the Commissioners. The Commissioners after a very careful investigation considered that there was no important increase of fresh insanity, and he was not satisfied that an International Commission would throw any additional light on the matter. The question would of course continue to receive very careful consideration.

Health of the Troops in India.

Major Rasch asked the Under Secretary of State for War whether the battalion of the Somerset Regiment now in India was found unfit for active service at the front owing to disease and sent back; what was the nature of the disease and the number of men found unfit for service from that cause; and what was the proportion remaining fit for duty.—Mr. Brodrick replied that the First Battalion Somersetshire Light Infantry was employed throughout the operations of the Mohmand Field Force and returned to Peshawar when that force was broken up. It suffered somewhat during the operations from fever and ague. But on Oct. 1st last it had 895 men fit for duty. There was nothing to show that the battalion was unfit for active service.

TUESDAY, MARCH 15TH.

The Registration of Stillbirths.

Sir Walter Foster asked the Home Secretary whether his attention had been called to Mr. Justice Grantham's remarks at the Central Criminal Court on March 10th, at the trial of Amelia Hollis, with reference to the present system of putting away stillborn children, and whether, seeing that the report of the Select Committee on Death Certification in 1893 expressed the opinion that the absence of legal requirements that such births should be registered prior to the disposal of the bodies was fraught with very serious danger to child life, he would bring in a Bill to amend the law in the direction recommended by the Select Committee.—Sir M. White Ridley replied: "My attention has been called to the remarks of the learned judge, and I may say that one of the recommendations made by the Select Committee—namely, the equalising of the burial fees for stillborn children with those for children not a month old—has long been the rule of the Home Office in its administration of the Burial Acts. The general subject of death certification is engaging my attention, and I am at the present moment in communication with the Local Government Board about it."

The Effect of the Dum-Dum Bullet.

Mr. Powell Williams, Financial Secretary to the War Office, said in reply to Mr. John Dillon that the Dum-Dum bullets were made in India by the Indian Government and were issued by it to the army in India. They were found to inflict when they strike soft tissues a wound sufficiently severe to stop an enemy. They did not in any way infringe the Convention of St. Petersburg. Some of these bullets had been specially manufactured at Woolwich for one of the West African colonies at the request of the Crown Agent.

Introduction of the Vaccination Bill.

At this sitting of the House Mr. Chaplin asked and obtained leave to introduce "a Bill to amend the law with respect to vaccination." He made the request at the commencement of public business, when by the rules of the House he could only speak for a limited time and only one other member could follow him.

Mr. Chaplin's speech was as follows:—I hope that within the time permitted by the standing order I shall be able sufficiently to explain the changes which are made in the laws relating to vaccination by the Bill which I ask leave to introduce. There are various reasons which make these changes, in my judgment, eminently desirable. Prominent among them is the fact that the Royal Commission appointed so long ago as 1889, after many years has presented a report, which was published towards the end of 1896. Another and not less cogent reason is to be found in the lamentable outbreaks of small-pox which have recently occurred in Gloucester and Cheshire and which must be fresh in the recollection of the House. Now, I do not dwell upon the views, emphatically pronounced, upon the necessity for vaccination and its efficacy in either preventing or

diminishing the evils of small-pox. They appear to me to be conclusive and unanswerable, but I must refer to some of the recommendations which are made by the Commissioners. Some of them relate to administrative changes in the methods and procedure under which the practice of vaccination is conducted at present. Others refer to modifications of the existing law under which children are required to be vaccinated whether their custodians desire it or not. In the first category there are some which seem to be of primary and cardinal importance. One of these relates to the kind of lymph which they recommend should be used in future, and on this point I may remind the House that there have been some most remarkable discoveries in recent years, and if we take advantage of them, as I hope and I believe we shall, they will go far to revolutionise the whole of the present system of public vaccination. I am referring now to the results which it is proved are obtained by the preservation of lymph taken from the calf in glycerine. The inquiries of the Royal Commission have been strengthened and confirmed by further investigations made upon their recommendation. These investigations were conducted by Sir Richard Thorne and Dr. Copeman on behalf of the Local Government Board since the report of the Commission was published into the systems in practice abroad—in Paris, Berlin, Dresden, Cologne, and Geneva—from which it appears that calf lymph preserved in this way possesses remarkable properties and advantages. In the first place, all extraneous organisms when the lymph is mixed with glycerine are destroyed. For instance, it is found that such organisms as the microbes of tubercle, erysipelas, and diphtheria, and other diseases (even when they have been added for the purpose of experiment) very shortly disappear, although the lymph retains its full activity for vaccination purposes. Secondly, it can be kept for long periods and upon an emergency large quantities can with facility be supplied; and, thirdly, which is a matter of the first importance, the necessity for arm-to-arm vaccination and consequently all risk and possibility of inoculation with syphilis, whatever it may have been heretofore, wholly disappears. On this point the Commission make two recommendations — that lymph shall be placed within the reach of all and that no parents shall be required to submit their children for vaccination by means of anything but calf lymph. Well, we accept their recommendations. By arrangement with the Medical Institute of Preventive Medicine the Local Government Board have acquired the necessary accommodation and preparations for the supply of lymph are now in progress; and while the Bill provides that vaccination will continue as at present to be obligatory vaccination by anything but calf lymph will cease to be compulsory. But this change in the law naturally carries with it another of perhaps even more importance to the comfort of parents and of children. At present the statutory arrangements for vaccination in England and Wales are based on the requirements that vaccination shall be performed with humanised lymph from arm to arm. This necessitates the attendance of parents with their children at the various vaccination stations throughout the country on two occasions—on the first occasion for vaccination, on the second, a week afterwards, for inspection, when the attendance of the child is also required for another purpose—viz., that lymph may be taken from the arm, if necessary, to be used upon another child. But under the Bill vaccination from arm to arm will cease to be compulsory, and with lymph supplied from other sources there will be no necessity for the attendance of children at the stations to provide the required lymph for others. On this point we adopt another recommendation of the Commission—viz., that vaccination should be domiciliary, and accordingly the Bill provides that instead of requiring the attendance of children at the stations the vaccinator will be required to attend at the house of the child. Instead of sending the child to the doctor the doctor in future will go to the child, and in this way we shall assimilate as nearly as possible the law and practice in England to what it is in Scotland, where vaccination has never been the difficulty that it is sometimes with us. In addition to this we enact that where children must now be vaccinated within three months after birth that period is extended to twelve months on the ground that all authorities agree that there is greater immunity from any risk of undesirable consequence from vaccination at twelve than at three months. There is one other subject which I must refer to for not more than a moment—viz., the existing penalties for non-compliance with the law. I have been unable to accept the recommendation that anyone objecting to vaccination may escape the obligation by simply making a statutory declaration to that effect. The effect of this, it seems to me, would be to make vaccination a dead letter wherever people wish and choose to do so, and nothing could be more unfortunate or injurious to the community than the discontinuance on any considerable scale of the practice of vaccination; and I observe that the Commission themselves were not united upon that point. Where they are agreed and where we are disposed to meet them is in the recommendation that where people conscientiously object they may be relieved from the imposition of repeated penalties. This recommendation was unanimously made in an interim report which was published six years ago, and it is also the unanimous recommendation of the Select Committee of 1871. I am the more disposed to agree with it because, so far as I can learn, this provision of the law has not attained its object. Repeated penalties have often been enforced without securing the vaccination of the child on the one hand and, on the other, they have a tendency to bring the vaccination law into bad odour and to rouse opposition to it which could not otherwise exist. We propose, therefore, to repeal the provisions of the existing Acts which admit of repeated penalties. These are the main provisions of the Bill which I desire to introduce to-night. We have sought, on the one hand, to remove every objection which can reasonably be urged to vaccination and to give every facility for its operation and, on the other hand, to modify the law where its operation appears to be uselessly harsh. These changes will be, as we believe, especially in the interests of the poorer parents who have not always the same facilities for the vaccination of their children as their richer neighbours. It would be manifestly impossible to allow vaccination to fall into disuse, and we have good reason, I think, to hope that full advantage will be taken of the facilities we give in future, and that they will be instrumental in lessening the prevalence and minimising the effects of one of the most loathsome and terrible diseases which afflict the human race.

Sir Walter Foster followed Mr. Chaplin and congratulated him on the very practical measure he had prepared. It appeared that the salient points of the report of the Royal Commission had been seized and, so far as he could see at present, the Bill would meet many of the difficulties which now beset the protection of public health. As to the use of the new form of lymph, if the public mind could once be convinced that there was a means of vaccinating children without incurring the risk of communicating disease, one of the great obstacles would have been overcome. As he gathered, parents would still be liable to prosecution, and if that were so he was afraid the Bill would not satisfy certain opponents of vaccination but, on the contrary, would enable them to keep up mischievous and hurtful agitation.

Leave being given, the Bill was introduced and formally read a first time.

BOOKS, ETC., RECEIVED.

ARROWSMITH, J. W., Quay-street, Bristol.
Some Incidents in General Practice: being a Second Series of Reminiscences. By Augustin Prichard, Surgeon. 1898.

BAILLIÈRE, TINDALL, AND COX, King William-street, Strand, London.
Idiopathic Ulcerative Colitis—Dysentery. By James F. Gemmel, M.B. 1898. Price 12s. 6d.

BORNTRAEGER, G., Berlin.
Zur Austilgung der Syphilis. Von Dr. E. Kromeyer. 1898.

BRADLEY AND SON, Reading.
Transactions of the Reading Pathological Society. Vol. II. Fifty-sixth Session, 1896-7. 1897.

CLAY, W. F., Teviot-place, Edinburgh.
The Scottish Medical and Surgical Journal. Edited by Wm. Russell, M.D., F.R.C.P. Edin. Vol. I. Illustrated. 1897. Price 24s.

COBLENTZ, OSCAR, Berlin, W.
Therapeutisches Vademecum' der Haut- und Geschlechts-Krankheiten für Practische Aerzte. Von Dr. R. Ledermann. 1898.

COX, HORACE, Bream's-buildings, London, E.C.
Poultry for the Table and Market *versus* Fancy Fowls. By W. B. Tegetmier, F.Z.S. Third Edition. 1898. Price 2s. 6d.

KIMPTON, HENRY, High Holborn, London.
Traumatic Injuries of the Brain and its Membranes. By C. Phelps, M.D. Illustrated. 1898. Price 21s. net.
A Text-book of Surgery. By Dr. H. Tillmanns. Translated by B. T. Tilton, M.D. Edited by L. A. Stimson, M.D. Vol. II. Regional Surgery. Illustrated. 1898. Price 21s. net.
Diseases of the Stomach. In Three Parts. By J. C. Hemmeter, M.B., M.D. Illustrated. 1898. Price 30s. net.

LEA BROTHERS AND CO., New York.
Essentials of Obstetrics. By C. Jewett, A.M., M.D., Sc.D.; assisted by H. F. Jewett, M.D. Illustrated. 1897.

LEWIS, H. K., Gower-street, London, W.C.
Diseases of the Nervous System. By C. E. Beevor, M.D. Lond., F.R.C.P. Illustrated. 1898. Price 10s. 6d.

LONGMANS, GREEN AND CO., Paternoster-row, London.
An Index to the Transactions of the Clinical Society of London. Vol. I. to XXX. 1898.

MACMILLAN AND CO., London.
The Genesis and Dissolution of the Faculty of Speech: A Clinical and Psychological Study of Aphasia. By Jos. Collins, M.D. 1898.

NEWNES, GEO., Southampton-street, Strand, London.
The Story of Life in the Seas. By Sydney J. Hickson, D.Sc., F.R.S. Illustrated. 1898. Price 1s.

OGILVIE, J. S., Rose-street, New York.
The X Rays: their Production and Application. By Fred. S. Kolle, M.D. 1897.

QUEENSLAND AGENT-GENERAL'S OFFICE, Westminster-chambers, Victoria-street, London.
Ethnological Studies among the North-West-Central Queensland Aborigines. By Walter E. Roth, M.R.C.S., L.R.C.P. Lond. Illustrated. 1897.

SAMPSON LOW, MARSTON, AND CO., Fetter-lane, London, E.C.
The Care of the Sick at Home and in the Hospital. By Dr. Th. Billroth. Translated by J. B. Endean. Fifth Edition. Illustrated. Price 2s. 6d.

SMITH, ELDER, and Co., Waterloo-place, London.
Gardner's Household Medicine and Sick-room Guide. Thirteenth Edition. By W. H. C. Staveley, F.R.C.S. Eng. Illustrated. 1898. Price 8s. 6d.

SWAN SONNENSCHEIN AND CO., Paternoster-square, London.
Recollections of Thirty-nine Years in the Army. By Sir C. A. Gordon, K.C.B. 1898. Price 12s.

THE SAVOY PRESS, 115, Strand, London.
Stammering, Stuttering, and Other Speech Affections: their Causes and Cures. By W. Abbotts, M.D., M.R.C.S. Ninth Edition. 1898. Price 1s.

WILLIAMS AND NORGATE, Henrietta-street, Covent-garden, London.
Zur Bakteriologie der Puerperal-Infektion. Von Dr. K. Strunckmann. 1898. 2s. net.

WRIGHT, J., AND CO., Bristol.
Doctor and Patient: Hints to Both. By Dr. R. Gersung. Translated by A. S. Levetus; with a Preface by D. J. Leech, M.D., F.R.C.P. 1898. 2s. net.

Appointments.

Successful Applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.

ASTON, R. H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Eccleshill Sanitary District.

BARKER, PERCY D., M.R.C.S., L.R.C.P., has been appointed Junior House Surgeon to the Chesterfield and North Derbyshire Hospital and Dispensary.

BARNES, GEORGE, M.R.C.S., L.R.C.P. Edin., has been re-appointed Medical Officer of Health for Chard.

BEATTLEY, W. C., M.D. Durh., M.R.C.S., has been appointed Honorary Physician Accoucheur to the Newcastle-on-Tyne Lying-in-Hospital.

BERNARD, CLAUD, L.R.C.P. Lond., M.R.C.S., has been appointed a Medical Officer to the Hambrook Village Hospital.

BERRY, FREDERICK CHARLES, B.A., M.D., B.Ch. Dubl., has been re-appointed Medical Officer of Health for Burnham, Somerset.

BLACKLOCK, A. W., M.D. Aberd., has been re-appointed an Honorary Physician to the Northern Counties Hospital for Diseases of the Chest, Newcastle-on-Tyne.

CLOWES, ERNEST, F., L.R.C.P. Lond., M.R.C.S. Eng., has been appointed House Physician to the Royal Hants County Hospital, Winchester.

COLE, GEORGE, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Sixth Sanitary District of the Parish of Nottingham.

COLEY, F. C., M.D. Durh., L.R.C.P. Lond., M.R.C.S., has been re-appointed an Honorary Physician to the Northern Counties Hospital for Diseases of the Chest, Newcastle-on-Tyne.

CRAIK, R., M.D. Glasg., has been appointed Medical Officer to the *employés* of the Cadeby Main Colliery.

CRINION, J. T. D., L.R.C.P., L.R.C.S. Irel., has been appointed Medical Officer for the Clarence-street District of the North Union, Dublin.

DARBY, H. C., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health by the Lye and Wollescotte Urban District Council.

DENNIS, O. A., L.D.S. Irel., has been re-appointed an Honorary Dental Surgeon to the Nottingham General Dispensary.

DENT, H. C., M.R.C.S., has been appointed Medical Officer for the Northrepps Sanitary District of the Erpingham Union.

GERATY, THOS., L.R.C.P. Irel., M.R.C.S., has been re-appointed an Honorary Consulting Surgeon to the Nottingham General Dispensary.

GIDDINGS, R. R., M.B. Edin., M.R.C.S., has been re-appointed an Honorary Consulting Surgeon to the Nottingham General Dispensary.

GOODING, MATTHEW RICHARD, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Barnstaple Port Sanitary Authority.

GRACE, ALFRED, jun., L.S.A. Lond., has been appointed a Medical Officer to the Hambrook Village Hospital.

GREATHATCH, H. W., M.B., C.M. Edin., has been appointed Medical Officer of Health for the Burgh of Montrose, vice S. Lawrence, retired.

GROSVENOR, WILSHAW WILLIAM, B.A. Cantab., M.D. Dubl., M.R.C.S., L.R.C.P., has been appointed Surgeon to the Gloucester Union Workhouse, vice R. M. Cole, resigned.

HAMILTON, S., M.B., B.Ch. Irel., has been appointed Medical Officer for the St. Mellons Sanitary District of the Newport (Mon.) Union, vice W. H. Richards, resigned.

JEFFERY, FRANCIS, F.R.C.S. Eng., has been appointed Surgeon to Out-patients at the Belgrave Hospital for Children, London, S.W.

JAGO, CHARLES SPRAGUE, M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health by the St. Just (Cornwall) Urban District Council.

LAMBERT, F. W., L.R.C.P. Edin., M.R.C.S., has been re-appointed Medical Officer of Health by the Farsley District Council.

MCKELVEY, A. N., L.R.C.P., L.R.C.S. Irel., has been appointed an Assistant Medical Officer to the District Lunatic Asylum, Omagh, vice E. F. W. Moon, resigned.

MILNS, ALEX, M.D. Edin., F.R.C.S., has been appointed an Assistant Surgeon to the Edinburgh Royal Infirmary.

MONCKTON, WILLIAM, M.R.C.S., L.R.C.P. Edin., has been re-appointed Medical Officer of Health for Portishead.

MUSGRAVE, C. B. T., M.D. Lond., L.R.C.P., M.R.C.S., has been re-appointed Medical Officer for the Cromer Sanitary District of the Erpingham Union.

NEWBOLT, G. P., M.B. Durh., F.R.C.S. Eng., has been appointed an Honorary Surgeon to the Royal Southern Hospital, Liverpool, vice H. G. Rawdon, retired.

PATTERSON, J. H., M.B., C.M. Edin., has been appointed House Surgeon to the Bradford Children's Hospital.

PIRIE, W. R., M.A., M.B., C.M. Aberd., has been appointed Medical Officer to the Aberdeen General Dispensary, vice G. Watt, resigned.

PRYCE, T. D., M.R.C.S., has been re-appointed an Honorary Consulting Surgeon to the Nottingham General Dispensary.

ROBINSON, F. G., M.B. Viet., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer for the Broughton District of the Salford Union.

SHERA, J. E. P., L.R.C.S. and P. Irel., has been appointed House Surgeon to the Teignmouth Hospital, South Devon.

SIMPSON, W. J. R., M.D. Aberd., M.R.C.P. Lond., D.P.H. Camb., has been appointed to the Professorship of Hygiene by the Council of King's College, London.

SMITH, F. G., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Workhouse and the Stockton Sanitary District of the Stockton Union.

WAITS, A. M., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the First Sanitary District of the East Ashford Union.

WEAR, A. T., M.D. Durh., L.R.C.P. Lond., M.R.C.S., has been re-appointed an Honorary Medical Officer to the Northern Counties Hospital for Diseases of the Chest, Newcastle-on-Tyne.

WHITE, G. B., M.R.C.S., has been re-appointed an Honorary Consulting Surgeon to the Nottingham General Dispensary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BETHLEM HOSPITAL.—Two resident Clinical Assistants for six months. Apartments, complete board, and washing provided. Applications to the Treasurer, Bridewell Hospital, New Bridge-street, London, E.C.

BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN Birmingham.—Resident Medical Officer and a Resident Surgical Officer. Salaries £70 and £50 respectively, with board, washing, and attendance at the institution.

BIRKENHEAD UNION.—Assistant Medical Officer for the Infirmary, Workhouse and Schools. Salary £80 per annum, with board, washing, and apartments, but no extra fees. Applications to the Clerk to the Guardians, 45, Hamilton-square, Birkenhead.

BOROUGH HOSPITAL, Birkenhead.—Junior House Surgeon. Salary £60 per annum, with board and lodging, but no wine, spirits, or beer.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's-inn-road.—Assistant Registrar, for twelve months.

DARENTH ASYLUM FOR ADULT IMBECILES, near Dartford, Kent.—Medical Superintendent. Salary £600 per annum, with the emoluments of unfurnished house, coals, gas, washing, milk and vegetables, subject to statutory deduction. Applications to the Clerk, Norfolk House, Norfolk-street, Strand, London, W.C.

EAST LONDON HOSPITAL FOR CHILDREN, Glamis-road, Shadwell, E.—Resident Medical Officer for two years. Salary £80 per annum, with board, residence, and laundry.

FISHERTON ASYLUM.—Assistant Medical Officer, unmarried. Salary £100 a year, with board, lodging, and washing. Apply to Dr. Finch, The Asylum, Salisbury.

GENERAL HOSPITAL, Birmingham.—Resident Surgical Officer for one year. Salary £100 per annum, with residence, board, and washing.

GENERAL INFIRMARY, Northampton.—House Surgeon, unmarried. Salary £125 per annum, with furnished apartments, board, attendance, and washing.

GOLD COAST AND LAGOS COLONIES.—Appointments in the Government Medical Service. Initial salary £350 a year, with free quarters (or allowances in lieu thereof) and free passage. Applications to be addressed to the Assistant Private Secretary, Colonial Office, London.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians.

KING'S COLLEGE, London.—The Sambrook Surgical Registrarship (from King's College Students only).

LINCOLN LUNATIC HOSPITAL.—Assistant Medical Officer.

NORTH LONDON HOSPITAL FOR CONSUMPTION, Mount Vernon, Hampstead, and Fitzroy-square, London, W.—Physician and Assistant Physician. Applications to the Acting Secretary, Offices, 41, Fitzroy-square, W.

OLDHAM INFIRMARY.—Junior House Surgeon. Salary £50 per annum, with board and residence.

POPLAR HOSPITAL FOR ACCIDENTS, East India-road, Poplar, E.—Assistant House Surgeon. Salary £65 a year, with board and residence.

ROYAL CORNWALL INFIRMARY, Truro.—House Surgeon, unmarried. Salary, first year, £120, increasing by £10 a year to £150, with furnished apartments, fire, light, and attendance.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, London.—Resident Medical Officer for six months. Salary at the rate of £100 per annum, with furnished apartments, board, and washing. Also House Physician for six months. Salary at the rate of £40 per annum, with board, lodging, and washing.

ROYAL NATIONAL HOSPITAL FOR CONSUMPTION, Ventnor, Isle of Wight.—Assistant Resident Medical Officer, unmarried. Salary £80 per annum, with board and lodging in the hospital. Applications to the Board of Management, London Office, 34, Craven-street, Charing-cross.

ROYAL SOUTH LONDON DISPENSARY, St. George's-cross, S.E.—Honorary Surgeon.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior House Surgeon for six months. Salary £80 per annum, with board and lodging. Stimulants and washing not provided.

SHEFFIELD UNION WORKHOUSE INFIRMARY.—Junior Assistant Medical Officer for six months at the Workhouse Infirmary, Fir Vale, Sheffield, unmarried. Residence in the infirmary. Furnished apartments, board, and washing provided. Honorarium of £12 will be given. Applications to the Clerk to the Guardians, Union Offices, West Bar, Sheffield.

STAMFORD, RUTLAND, AND GENERAL INFIRMARY, Stamford.—House Surgeon for two years, unmarried. Salary £100 per annum, with board, lodging, and washing.

ST. BARTHOLOMEW'S HOSPITAL, London, E.C.—Surgeon.

ST. MARY'S COLLEGE, Glasgow.—Professorship of Forensic Medicine and the Lectureship on Hygiene in this College.

ST. PANCRAS AND NORTHERN DISPENSARY, 126, Euston-road, London.—Honorary Physician. Applications to the Hon. Secretary, 23, Gordon-street, Gordon-square, W.C.

STRETTON HOUSE ASYLUM, Church Stretton, Salop.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, rooms, washing, &c.

THREE COUNTIES ASYLUM, near Hitchin.—Second Assistant Medical Officer, unmarried. Salary commencing at £100 a year, with board, apartments, washing, and attendance.

VICTORIA HOSPITAL, Folkestone.—House Surgeon. Salary £80 per annum, rising to £100, with board, residence, and washing.

WORCESTER COUNTY AND CITY LUNATIC ASYLUM, Powick, near Worcester.—Third Assistant Medical Officer, unmarried. Salary commencing £100 per annum, with board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

AKERS.—On March 15th, at the Limes, Oldfield-park, Bath, the wife of William Dutton Akers, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A., of a son.

DELMEGE.—On March 15th, at Granada-road, Southsea, the wife of Fleet-Surgeon A. G. Delmege, Royal Yacht Osborne, of a son.

GALE.—On March 12th, at Manorgate House, Kingston-hill, Surrey, wife of Arthur Gale, M.R.C.S., L.R.C.P., of a daughter.

MOSELEY.—On March 8th, at Northgate-street, Ipswich, the wife of Charles Kingdon Moseley, M.R.C.S. Eng., L.R.C.P. Lond., L.S.A. Lond., of a son.

O'BRYEN.—On March 10th, at Springfield Lodge, Sydenham, S.E., the wife of J. Wheeler O'Bryen, M.D., L.R.C.P., of a son.

PINCOTT.—On March 9th, at Culverden Grange, Tunbridge Wells, the wife of James C. Pincott, M.R.C.S.E., L.R.C.P., L.M., of a son.

SMITH.—On March 12th, at Earl's-court-road, South Kensington, S.W., the wife of Percy Montague Smith, M.R.C.S. Eng., L.R.C.P. Lond., of a daughter.

TRESILIAN.—On March 8th, at Redlingtons, Enfield, the wife of Fred Tresilian, M.D., of a daughter.

MARRIAGE.

DURSTON—GILBERT.—On March 15th, at Christ Church, Streatham-hill, S.W., John C. Durston, Surgeon R.N., eldest son of Sir John Durston, K.C.B., R.N., to Nina Helen, second daughter of Major W. E. Gilbert, late 37th Regiment, Chief Constable Metropolitan Police.

DRAKE—SHIELDS-SCHIBILD.—On March 9th, at St. John's, Angell Town, Brixton, Ernest H. Drake, M.R.C.S., L.R.C.P., of West Kensington, to Louisa, only daughter of the late Jno. Shields-Schibild and Mrs. Shields-Schibild, of St. James'-road, Brixton.

INNES—SCOTT.—On Jan. 8th, at Napier, New Zealand, Charles Barclay Innes, M.B. Lond., to Mary, eldest daughter of the late George Scott, of The Willows, Gisborne, N.Z.

JENNINGS—STEELE.—On Feb. 21st, at Deolali, Bombay, W. E. Jennings, Surgeon-Captain, I.M.S., to Margaret Catherine, eldest daughter of William Johnstone Steele, of Annandale Lodge, Blackheath.

PARRY—LAWRENCE.—On March 8th, at St. Mark's, S. Norwood, Leonard Arthur Parry, M.D., B.S. Lond., F.R.C.S. Eng., L.R.C.P., eldest son of W. P. Parry, of Croydon, to Isabel Sythy, daughter of the late W. Lawrence, of Shirley.

DEATHS.

JOHNSTON.—On March 15th, at St. John's-wood-park, N.W., Joseph Johnston, M.D., Brigade-Surgeon (Ret.), aged 66 years.

KNIGHT.—On March 10th, at his residence, Waverley-road, Southsea, Kester Edward Knight, M.R.C.S., in his 85th year.

LYLE.—On March 15th, at 178, Amhurst-road, Hackney, Sarah Mary, the beloved wife of Herbert Willoughby Lyle, M.B. Lond., M.R.C.S., L.R.C.P., interred at Abney-park Cemetery Friday, March 18th, at 3 o'clock. No cards.

ORD.—On March 13th, at Clarendon-road, Lewisham, Christopher Knox Ord, M.D., F.L.S., aged 72.

QUAIN.—On March 13th, at Harley-street, Sir Richard Quain, Bart., M.D., LL.D., F.R.S., aged 81.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

TUESDAY (22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.).

WEDNESDAY (23rd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.).

THURSDAY (24th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.).

FRIDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

SATURDAY (26th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (22nd).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.15 P.M. Dr. Haig will demonstrate some Results to be Obtained by the Chloride of Ammonium Process as suggested by Mr. Barker Smith as a means for the Microscopic Detection of Uric Acid in Blood. 8.30 Paper:—Dr. L. Rogers: On the Epidemic Malarial Fever of Assam, or Kala-azar.

WEDNESDAY (23rd).—HUNTERIAN SOCIETY (London Institution, Finsbury-circus, E.C.).—8.30 P.M. Papers:—Dr. Appleford: Medical Practice in the West Indies.—Dr. J. F. Woods: Further Observations on the Treatment by Suggestion.

CHILDHOOD SOCIETY (Parkes Museum, Margaret-street, W.).—8 P.M. Mr. Sydney Stephenson: How Children's Sight may be Lost.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND (20, Hanover-square, W.).—4.30 P.M. Council Meeting. 5 P.M. Ordinary Meeting. Cases will be shown by Mr. W. T. Freeman (Reading), Dr. F. R. Walters, Dr. J. H. Stowers, Dr. A. Eddowes, and others.

FRIDAY (25th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Papers:—Mr. G. Barling: Two Cases of Interscapulo-thoracic Amputation for Sarcoma of the Humerus, with statistics showing the results of the operation recorded up to date.—Dr. F. Taylor and Mr. A. D. Fripp: A Case in which a Renal Calculus was Detected by the Roentgen Rays and successfully Removed.—Mr. L. A. Bidwell: Stricture of the Splenic Flexure, Transverse Colotomy, Ileo-symoidostomy.—Dr. Buzzard and Dr. J. R. Russell: Acute Ascending Paralysis with Bacteriological Examination.

LECTURES, ADDRESSES, DEMONSTRATIONS, ETC.

MONDAY (21st).—ROYAL COLLEGE OF SURGEONS.—5 P.M. Prof. H. Morris: The Surgery of the Kidney.

LONDON POST-GRADUATE COURSE.—London Throat Hospital, Gt. Portland-st., W., 8 P.M., Mr. G. C. Wilkin: Anatomy of the Ear, illustrated with lantern.

THE SANITARY INSTITUTE (Parkes Museum, Margaret-street, W.).—8 P.M. Mr. J. O. Smith: Principles of Calculating Areas, Cubic Space, &c.; Interpretation of Plans and Sections to Scale.

TUESDAY (22nd).—ROYAL COLLEGE OF PHYSICIANS.—5 P.M. Dr. J. R. Bradford: Observations on the Pathology of the Kidneys. (Goulstonian Lectures.)

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Mr. Gunn: Optic Atrophy.

LONDON POST-GRADUATE COURSE.—Bethlem Hospital, 2 P.M., Dr. Craig: General Paralysis.—Hospital for Skin Diseases, Blackfriars, 4.30 P.M., Dr. Abraham: Erythema.

ROYAL INSTITUTION.—3 P.M. Prof. E. Ray Lankester: The Simplest Living Things.

WEDNESDAY (23rd).—ROYAL COLLEGE OF SURGEONS.—5 P.M. Prof. H. Morris: The Surgery of the Kidney.

LONDON POST-GRADUATE COURSE.—Parkes Museum, Margaret-st., W., 4.30 P.M., Prof. A. Wynter Blyth: Air.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Mr. Godlee: Surgical Lecture.

EVELINA HOSPITAL (Southwark-bridge-road, S.E.).—4.30 P.M. Dr. F. Willcocks: Selected Medical Cases. (Post-Graduate Course.)

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. S. Edwards: Litholapaxy.

THURSDAY (24th).—ROYAL COLLEGE OF PHYSICIANS.—5 P.M. Sir R. Douglas Powell: On the Principles which govern Treatment in Diseases and Disorders of the Heart. (Lumleian Lectures.)

LONDON TEMPERANCE HOSPITAL.—2 P.M. Dr. S. Fenwick: Clinical and Pathological Demonstration to Senior Students.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Garrod: Demonstration of Selected Cases.
LONDON POST-GRADUATE COURSE.—Central London Sick Asylum, Cleveland-st., W., 5.30 P.M., Dr. Thin: Clinical Lecture.
THE SANITARY INSTITUTE (Parkes Museum, Margaret-street, W.).—Prof. W. H. Corfield: Water Supply, Drinking Water, Pollution of Water.
ROYAL INSTITUTION.—3 P.M. Prof. J. A. Fleming: Recent Researches in Magnetism and Diamagnetism. (Tyndall Lecture.)
FRIDAY (25th).—ROYAL COLLEGE OF SURGEONS.—5 P.M. Prof. H. Morris: The Surgery of the Kidney.
LONDON POST-GRADUATE COURSE.—King's College, 3 to 5 P.M., Prof. Crookshank: Typhoid Fever and Diphtheria.
ROYAL INSTITUTION.—9 P.M. The Very Rev. the Dean of Canterbury: Canterbury Cathedral.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, March 17th, 1898.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Mar. 11	30·21	N.E.	...	60	48	35	36	37	Overcast
,, 12	30·02	N.E.	...	52	44	36	38	40	Overcast
,, 13	30·09	S.W.	...	54	49	33	36	38	Overcast
,, 14	29·93	W.	0·02	57	51	37	44	46	Cloudy
,, 15	30·03	WSW	0·01	81	55	36	36	38	Cloudy
,, 16	29·92	W.	...	78	56	38	47	49	Cloudy
,, 17	30·02	W.	...	59	53	46	46	48	Overcast

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

ALCOHOLIC MILK!

IT has long been known that ginger-beer is a favourite drink of teetotallers as being cooling and refreshing, but it is not so generally known that it contains an appreciable quantity of alcohol—about 2 per cent. It has now been discovered by a German chemist, Dr. H. Weller, that milk containing alcohol can be got "straight from the cow." Dr. Weller was employed to examine some milk which had an irritating taste and discovered that it contained alcohol to the amount of 0·96 per cent. The cause was not far to seek, for the herd belonged to a distillery and were fed on the waste, which contained alcohol, which alcohol was excreted in the milk. It will, however, be a comfort to really enthusiastic teetotallers to know that the obnoxious addition was easily driven off by heat. Alcoholic preparations of milk such as Koumiss have, of course, been known from time immemorial, but the fact of alcoholic milk straight from the cow or mare is at first sight startling.

LEEDS INFECTIOUS DISEASES HOSPITAL.

IN the competition recently decided for the best scheme of warming, ventilation, &c., for the New Infectious Diseases Hospital, Leeds, the successful competitors were Messrs. Dargue, Griffiths, and Co., Ltd., of Lord-street, Liverpool.

A WORD TO MANAGERS OF THEATRES.

To the Editors of THE LANCET.

SIRS,—The system of booking now so largely adopted at our theatres for nearly every part of the "house" is never likely to extend to the pit. There are several reasons why this should be so, and amongst others the fact that many business men though anxious to patronise the play are not always certain when they will be able to spare the necessary time. They therefore prefer to take their chance of obtaining a seat along with their wives and daughters among the many who form the long files of persons who are to be seen extending from the pit door along the walls of the theatre building an hour and frequently more before the doors are open. This in itself on a cold and damp night is not conducive to the avoidance of a chill, but I do not exactly see how theatre managers are to help their patrons unless it were found practicable to throw open the pit some hours before the commencement of the performance. But there is one thing they can do and I feel sure that their attention needs only to be directed to the matter to remedy the evil. In some cases people waiting for admission are compelled to stand over iron gratings, and when this standing continues for from an hour to two hours it must be obvious to everyone that the amount of heat conducted from the body through the feet is very considerable. This added to a damp atmosphere makes the risk of catching a chill very great indeed. Some method of covering up these gratings with boards or mats might easily be devised and at least one of the objections to the long waiting from a health point of view would be thus eliminated.

I am, Sirs, yours faithfully,
March 15th, 1893. PITTITE, M.D.

A HINT TO BAKERS.

THE *Journal of the Sanitary Inspectors' Association*, issued quarterly under the cryptic motto, "Heb iechyd, baich yw Bywyd," by the sanitary inspectors of South Wales and Monmouthshire, contains the following suggestive little paragraph among many interesting papers and reports:—

"The handling of bread by bakers and their assistants is one of those things which people who are particular with regard to what they eat are constantly discussing with a view to getting a change made in the direction of what they regard as cleanliness, but it must be confessed with no success at all. In Berlin, however, the public agitation on the subject has resulted in a solution of the difficulty which precludes the possibility of unclean hands touching the loaf. This consists in using paper bags made to fit the shape of the loaf, but rather longer. As soon as the loaf is taken from the oven it is at once put into the bag, whose ends are twisted, thus preventing the possibility of its contents being defiled either by dirty hands, or by gathering dust in its transit through the streets, or from being allowed to fall on dirty pavements, as so frequently happens with careless lads who deliver the daily loaf at the door. The Germans have recognised the advantage of this and the bakers who use the new system have reaped a corresponding reward. Here is a chance for any enterprising bakers of England to take advantage of their slow-going rivals without any appreciable expense, for the cost of paper bags is infinitesimal."

PRACTICE IN THE UNITED STATES.

To the Editors of THE LANCET.

SIRS,—Will any of the profession give particulars as to the best place for a Scotch practitioner going to the United States to start practice? He has some capital and is strong and healthy and would prefer New York or Brooklyn or Boston or some other big town to begin in. What regulations have to be complied with in order to be registered in the State wherein practice is begun and what are the costs? What is the usual way of beginning there? Is it anything like the way in which practices are conducted in the mother country?

I am, Sirs, yours faithfully,
March 14th, 1898. A COUNTRY PRACTITIONER.

*** Our correspondent will find particulars of the requirements governing practice in the various States of the United States in THE LANCET, Sept. 26th, 1896, pp. 769–771, and Oct. 3rd, 1896, pp. 969–971.—ED. L.

PARASITIC FŒTUS.

TEN years ago a remarkable case of abnormal twin development was on exhibition in London, and an account of the appearances observed by Mr. J. Bland Sutton and Mr. Shattock was published in THE LANCET of Feb. 11th, 1888, p. 276, and Feb. 25th, 1888, p. 371. It is figured in the Transactions of the Pathological Society of London. The person in question has now made a second visit to London, this time as one of the so-called "freaks" at Barnum and Bailey's show at Olympia, and is called "Laloo and Lala" in the official catalogue. The predominant partner in this combination is Laloo, a man apparently about five feet in height, active, well-proportioned, intelligent, and fluent in English. He describes himself as being a native of Lucknow in India and states that none of his relatives have been the subject of any malformation; his age must be about twenty-seven years, but he would easily pass for a year or two less. Beyond his comparatively short stature, swarthy complexion, and sparse black facial hair, all of which characteristics are so frequently combined in certain Indian races, there is nothing unusual in his appearance, except a protuberance in the epigastric region which might pass for a small football concealed beneath his

showy costume. This protuberance, which is "Lala," may be described as a case of fusion of a parasitic fœtus whose development and post-natal growth has been almost arrested. In the situation of the lower extremity of Laloo's sternum there is a very short pedicle, rather thicker than can be encircled by an ordinary finger and thumb. This pedicle almost immediately divides into two halves, one of which carries the two upper limbs while the other portion carries the trunk and lower limbs of the parasite. There is no head, and the neck is not represented otherwise than by the pedicle. The trunk and thighs of the parasite were covered with a wrapper, but the arms, hands, and feet, which resembled those of a child somewhat less than a year old, were available for inspection. The parasite was said to pass urine but not fæces; it has a hernia and wears a truss, which could be felt through the covering. The integument of the parasite is, of course, continuous with Laloo's, and any impression made on it is felt by him just as on any part of his own surface; he has no premonition when the parasite is about to micturate; he states that it has gained a little in size in the course of time.

A PROMPT REPUDIATION.

To the Editors of THE LANCET.

SIRS,—A paragraph appeared in *Black and White* of the 12th inst. giving an inaccurate account of certain circumstances that occurred at the National Orthopædic Hospital and mentioning me by name with laudatory comments in the most puffing style. I think it right to state publicly that this has been done without my knowledge or approval, and that it has caused me much annoyance.

Thanking you in advance for inserting this letter,

I remain, Sirs, yours faithfully,

Seymour-street, W., March 16th, 1898. E. MUIRHEAD LITTLE.

*** We have seen the paragraph in question. We have no doubt that it was written with the kindest intent, but it none the less called for immediate repudiation.—ED. L.

TWO QUERIES.

To the Editors of THE LANCET.

SIRS,—1. I should be obliged if any of your readers could tell me which is the best bicycle saddle. I am over fifty years of age, weight 18st., and find the ordinary "Brooks" a little irksome. 2. You spoke favourably some time ago, I think, of Forsyth's "hygienic underwear." Are these garments as good as Jaeger's wares for rheumatic patients, and are they still of *pure* wool? I am, Sirs, yours truly.

March 9th, 1898. M.R.C.S.

A GERM-PROOF FILTER.

MESSRS. SLACK AND BROWNLOW, of Gorton, Manchester, have drawn our attention to the merits of their stoneware filter which they have recently placed upon the market. The filter consists of a hollow cylinder of porous porcelain which may be used in connexion with the tap, or with an ordinary reservoir filter. The filter has recently been subjected to bacteriological experiments by Dr. Woodhead and Dr. Cartwright Wood, the results of whose researches have been published in the *British Medical Journal* (Jan. 2nd, 1898). These experiments refer to the tap filter, and the results would appear to indicate that this filter has the power to prevent the direct passage of water organisms. Further tests showed that on every occasion the filtrate remained absolutely sterile. When a rich emulsion of the cholera bacillus was tried the filtrate yielded results which were entirely negative.

"CHINOSOL."

To the Editors of THE LANCET.

SIRS,—In reply to "X. Y. Z.'s" inquiries about chinosol I may saw that I have for three or four years used it regularly and almost exclusively in operative and general surgery and in midwifery practice. I have always found it a most reliable and efficient antiseptic, with the advantage over carbolic and perchloride that it does not irritate the skin, but with the one drawback that it stains the instrument.

I am, Sirs, yours faithfully,

ALFRED CLARK, L.R.C.S. Edin., &c.

Cerne House, Leicester, March 15th, 1898.

A FRENCH NURSE DECORATED.

AFTER upwards of fifty-six years of continuous service the Cross of the Legion of Honour has been conferred upon Mdlle. Marguerite Bottard, greatly to the satisfaction of the entire personnel of the Salpêtrière which has been the scene of her devoted labour throughout her career. It was in January, 1841, that this venerable lady, who was then just nineteen years of age, commenced life as an *infirmière* in the wards of this celebrated institution, and ever since, almost without a break, her time has been devoted to the alleviation of human suffering. An insatiable worker, she seldom quitted the premises, and it is reported of her that during a period of three years she never once crossed the threshold of the hospital. At first for some fifteen or sixteen years Mdlle. Bottard carried on her duties under the successive direction of the elder Trélat, de Fairet, and Legrand du Saulle. Then she was promoted as superintendent of the section for nervous affections under Charcot, with whom she remained until the end. He had the highest possible opinion of his faithful assistant and used frequently to say that she richly deserved the distinction which now at length has been accorded to her.

DICTERICH'S STRIPED RUBBER PLASTERS.

MR. M. BUCHNER, of 149, Houndsditch, London, E.C., has sent us several samples of a new form of strapping and plaster. The adhesive substance is laid on the woven material, not in a continuous sheet but in strips of various widths; in some the strips are only one eighth of an inch wide, while in others the width of the strips may be as much as three inches. The advantages claimed for this arrangement are: firstly, that the strapping or plaster can be torn easily to the size required; and, secondly, that the non-adhesive intervals serve as a substitute for the perforations which are commonly used in plaster to permit evaporation. We have fully tested the samples sent to us and consider that the invention is decidedly useful. The material is readily torn as needed, and the absence of perforations permits of greater protection and support being afforded to the part, while not interfering with the passage of exudations. The price appears to us to be reasonable.

A CURIOUS ADVERTISEMENT.

THE following advertisement appeared in the *Times* of March 7th, 1898:—

> WANTED, fully-qualified MEDICAL GENTLEMAN, young, to take charge of the consultation department of a patent medicine business, with supervision of business arrangements. State salary. Reply to Messrs. D. and S., Solicitors, Bishopsgate-street, E.C.

The solicitors in question are, we presume, unaware that any fully-qualified medical gentleman taking charge of the management of a quack business would soon cease to be fully qualified.

Hospital Medical Officer.—No one will deny that drugs vary in effect according as they are given in large or small quantities. For example, half an ounce of vinum ipecacuanhæ will induce vomiting if taken, but, on the other hand, persistent vomiting is often completely checked by the administration of one minim of the same preparation every fifteen minutes. The reason why it is impossible to meet homœopaths in consultation is owing to their ridiculous "principles" and their views on pathology.

Dr. J. B. Emmerson.—We have seen what purports to be, and what we have no reason to doubt is, the original of the testimonial referred to, and the wording of it (including the "prostrate gland") is substantially as printed in the pamphlet enclosed by our correspondent.

Yorkshire.—The ordinary text-books for a higher medical examination For these see the Students' Number of THE LANCET, Aug. 21st, 1897. A fairly complete working knowledge of bacteriology is required and the candidate must be familiar with practical methods.

S. O. (Partick).—Our correspondent does not tell the story in sufficient detail or make the cause of his complaint quite clear. What were the answers given in a "rational manner" by the man when he was found hatless and wet?

Victim.—Such circulars are in deplorable taste, but we do not think that the General Medical Council would be prepared to call their dissemination "infamous conduct in a professional respect."

Ol. Ric.—We recommend the arbitration of a mutual acquaintance being sought. Such a mediator need not be a medical man, for the matters are rather of fact than of ethico-medical opinion.

P. T. (Canonbury).—Many references will be found in Neale's Digest. We have published several such papers and cannot be certain as to which our correspondent refers to.

Business.—We do not know that there is any rule that is recognised or usual. The plan suggested by our correspondent is a very fair one.

Video probably refers to the Rebman Publishing Company, Limited, 11, Adam-street, W.C.

Jockey.—Such a book in handy shape is wanted. The pellets have not been bettered.

Mr. J. B. Pike.—We have received certain communications.

R. L. S.—The wording of the Act is not conclusive.

During the week marked copies of the following newspapers have been received: *Humanitarian, Modern Society, Coventry Herald, Evesham Standard, Brighton Gazette, East Anglian Daily Times, Western Mercury, North British Daily Mail, Times of India, Pioneer Mail, Mark Lane Express, Builder, South Wales Daily News, Huddersfield Chronicle, Dundee Advertiser, Architect, Derby Telegraph, Birmingham Post, Leicester Post, Northern Daily Telegraph, Liverpool Daily Post, Sussex Daily News, Scotsman, Eastern Morning News, Sheffield Evening Telegraph, Leeds Mercury, Western Morning News, Manchester Guardian, Yorkshire Post, Bristol Mercury, Staffordshire Sentinel, Le Temps (Paris), Market Harborough Advertiser, Ripley Advertiser, Folkestone Observer, Nottingham Guardian, New Age, Public Health, Engineer, Morning Post (Delhi), Health, Family Doctor, Bradford Observer, Mining Journal, Banbury Advertiser, City Press, Hertfordshire Mercury, Local Government Chronicle, Reading Mercury, Weekly Free Press and Aberdeen Herald, North-Eastern Daily Gazette, Surrey Advertiser, Berkhamstead Times, Runcorn Guardian, Local Government Journal, Cheltenham Examiner, Northern Echo, Portadown News, Stroud Journal, Yarmouth Independent, West Middlesex Herald, &c., &c.*

Communications, Letters, &c., have been received from—

A.—Dr. R. G. Alexander, Blackwall; Mons. J. Astier, Paris; Mr. R. Y. Aitken, Blackburn; Dr. T. Arnold, Bulawayo; Dr. C. Abbott, Glasgow; *Annales d'Oculistique*, Paris, Editor of; Admiralty, Medical Department of, Director-General of.

B.—Mr. T. Brayton, Hindley; Mr. R. W. Brimacombe, Bristol; Messrs. Bates, Hendy, and Co., Reading; Mr. E. Blass, Lond.; Mr. W. A. Bowie, Lond.; Mr. J. R. de C. Boscawen; Mr. J. R. Bradford, Lond.; Messrs. Bellman, Ivey, and Carter, Lond.; Messrs. Burgoyne, Burbidges, and Co., Lond.; British Orthopædic Society, Lond., Secretary of; Mr. L. A. Bidwell, Lond.; Messrs. Burroughs, Wellcome, and Co., Lond.; Birmingham Children's Hospital, Secretary of.

C.—Mr. C. H. Cummins, Lond.; Mr. R. H. Clegg, Lond.; Mr. J. B. Cameron, Lond.; Mr. G. Clark, Downpatrick; Mr. F. W. Clarke, Manchester; Dr. J. S. Clayton, Accrington; Dr. J. Collins, New York; Messrs. Cassell and Co., Lond.; Cambs, Lond.; Mr. E. Cornish, Walthamstow.

D.—Mr. W. C. McDonnell, Lond.; Messrs. S. Deacon and Co., Lond.; Messrs. Douglas and Mason, Edinburgh; Messrs. Dargue, Griffiths and Co., Liverpool.

E.—Dr. W. A. Evans, Bradford.

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